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Dignified Housing: a Community in North Conway, New Hampshire

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Dignified Housing
Christian Lanciaux
Bachelor of Architecture
School of Architecture Art and Historic Preservation
Professor William McQueen
2009

Dignified Housing

A Community in North Conway, New Hampshire

Independent project submitted to Roger Williams University
School of Architecture, Art and Historic Preservation
in fulfillment of the requirements of the BArch Degree in
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Dignified Housing

A Community in North Conway, New Hampshire

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Fig. 1

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INTRODUCTION

This document outlines and explores my interest and investigation of how architecture affect's one's state of mind while addressing a specific social need in a particular area. The project is a mixed-income housing development in the town of North Conway, New Hampshire.

North Conway is a scenic tourist destination with many resorts and retail centers that attract people from all over New England. It has become a major center for second homes. As a result, the cost of housing throughout the area is very high, and not affordable to many full time residents who have jobs in the service and tourist industries. Therefore, affordable housing is a strong need of the town. Conway selectman Mark Hounsell has issued many public statements in regards to this issue stating that affordable housing is something the area lacks.

While responding to this social need, I will be using this project to explore my views on architecture. Affordable housing, in particular, is often a program that lacks in architectural expression since it is a common view that quality in design costs more. With this undertaking, I will design housing for residents with both low and moderate incomes. My goal will be create a design that will affect the perception, impression, and awareness of the project's features by those who use and observe it.

PROBLEM STATEMENT

Architecture is the manipulation of the world around us to create spaces that not only accommodate our needs, but also affect our state of mind. It is a composition of spaces that strikes a nerve in the observer or occupant when it is experienced either by observation or use. Buildings are too often designed and constructed with the sole purpose of fulfilling a need without consideration of the reaction they will evoke from those who use and observe them. The reaction of those who see and use spaces must be considered in a project's design process in order for it to be architecture.

The most common product of an architect is referred to as a building, but that does not mean every building is architecture. Having an architect design a project does not necessarily qualify it as architecture. There are buildings that are not architecture, but still could not have been built without the work of an architect, since his or her required responsibilities have little to do with what architecture truly is.

We see buildings around us everywhere today that we think nothing of when we use them or just pass by. They have no psychological effect on us.

Then there are those that do. They affect our perception or generate a thought process when we observe or occupy them. There are many ways in which architecture can make this happen. A feature of a building could grasp our attention with something that is of immediate interest. It could make one feel mentally comfortable or uncomfortable, important, welcomed, powerful, or at peace. The list goes on, but the point is that architecture strikes a nerve in some way.

Think about anytime you walk up the steps towards the main entrance of monumental classical federal building. When I approached the United States Capitol Building in Washington, D.C. for a tour, for example, a sense of power came over me as I made my way up the steps towards the colonnade and pediment above. There were no outside forward forces to make me feel this way. It was solely the building and its features.

Now imagine that the functions of the Capitol building were housed in a warehouse with plain walls and a roof. It could easily provide the necessary space for the same activities, but would someone be in the same state of mind as they would be when approaching the Capitol Building? They would not because a warehouse designed without any architectural intentions, and only shelters an activity, does not affect one's state of mind.



Fig. 2

Trinity Church is another place I have visited that impacted my frame of mind. It is located in an urban setting in the center of Boston, MA amidst several high rise buildings, including the Hancock Tower just across the street. There is an urban atmosphere outside the church. It is a busy area with a lot of noise and vehicles and pedestrians moving around everywhere.

Once I stepped inside, however, I immediately felt like I was in a completely different place. I no longer had the perception that I was in the middle of busy city. Looking around the low-lit vast interior, I felt at ease and at peace. The stained glass letting in low light, the vastness of the central tower to the ceiling, and the intricate religious decorations and paintings created a divine atmosphere for worship.



Fig. 3



Fig. 4

M.I.T.'s Stata Center in Cambridge, MA creates a chaotic environment in and around it. When inside and outside it, I felt agitated. Its jagged irregular forms and loud colors create space around it that did not allow me to feel at ease. This response to the building was solely influenced by my visual experience. The forms, materials, and colors affected the way I felt.



Fig. 5

Now imagine the program and functions of these three buildings being housed in plain warehouses that do nothing but provide sheltered spaces. They could easily provide the necessary space for the same activities, but people would not be in the same state of mind as they would be in the buildings as they are now. The United States Legislative Branch, Trinity Church's daily masses, and M.I.T.'s laboratories, classrooms, and offices could all be housed in the same warehouse, but their unique character would be absent, and the mindset of all observers and occupants would be the same for each.

PROJECT STATEMENT and ARCHITECTURAL INTENTIONS

Proposed is a mixed-income housing complex in North Conway, New Hampshire. This program is appropriate for its location due to a strong local economy in Conway and its surrounding towns and communities that has resulted from heavy tourism. One of the results is poor housing conditions in the area for those with limited incomes.

Developers in the area have been focusing on providing market-rate housing over the years to out-of-towners seeking second homes. Full-time residents working at the shopping outlets, hotels, ski lodges, and other accommodating resorts cannot afford the housing going up around them.

A strong local economy in Conway and its surrounding towns and communities has resulted from heavy tourism, resulting in poor housing conditions

One of the goals of this project is to develop a community that avoids the stigmatization that is often associated with affordable housing developments. Combining homes for residents of both low and moderate incomes provides affordability without singling out those who have limited incomes. Half of the development will be market-rate housing while the other half

will be low-income and would likely receive government subsidizing.

It is important that the project is not perceived as affordable housing. Low-income housing often carries the stereotype of affordability. An intriguing design with aesthetic variety that fits in with the rest of the community is an approach that will avoid this.

The community will encourage interaction among all residents to avoid a sense of isolation by residents with limited incomes in the low-income units.

The housing should bestow a sense of dignity on its inhabitants. The affordable units will be homes that their residents would be enthusiastic about residing in, rather than just a place they live because they cannot afford to be anywhere else.

Many design strategies will be taken in order to create a project that would affect the state of mind of its users and observers. Design features will stimulate the perception, sense, awareness, and impression of the housing development.

Architectural design and cost-efficient planning will be done concurrently. The design will strive to reach its full potential architecturally, despite a limited budget for the affordable units. Single-family units will be attached to one another and share common walls, rather than being free-standing homes. Minimizing exterior surfaces would save on materials and energy consumption.

South facing windows would maximize heat gain in the day and contribute to cooling at night. Since the Conway area is hot in the summer, and very cold in the winter, a strategy would be needed to shade these openings when heat is undesirable and be shade-free when it is wanted. One way to do this is by planting deciduous trees in front of openings.

The perception of spaces can be influenced by their connections to one another. For instance, a space that is limited in size can be made to feel larger by being open to others. Open planning can be applied to establish a sense of spaciousness in the housing units.

Another strategy to extend a space beyond its perimeter will be to provide large window openings. In the living rooms, for example, it may be ideal to have large windows and bay windows creating a visual extension to the exterior and make the spaces seem larger. If done correctly, this would also allow more natural light and solar heat gain in the space and reduce energy costs.

Distinguishing each unit from one another will increase the awareness of individuality in the complex. Highlighting each home and making each one individually recognizable would create a sense of dignity and independence within a shared development. Variations in height, volume, material, and opening size will be designed to highlight each individual unit and the spaces within.

The design of the housing development needs to be more than just an envelope with partitions inside to divide it into different apartments. Provisions must be made in the design to impact the attitude, disposition, and mood of the inhabitants.

CLIENT AND USERS

Client: Edward Polquin – Developer
Valley West Road
North Conway, NH

Glen Builders General Contractor
P.O. Box 1880
Upper West Side Road
North Conway, NH 03860
(603)356-3401
www.glenbuilders.com

Users: Residents with low-incomes as well as those who can afford market-rate housing



Fig. 6

Edward Polequin is a developer in the Mount Washington Valley who is the part owner of Glen Builders General Contractor. In the past he has purchased and subdivided plots of land of several acres and had his own company carry out the process of building market-rate single-family homes on them.

With these residential units, he seeks to respond to the valley's need for low-income housing while still providing his company with a profitable project. With half of the units being deemed as affordable, it is expected this portion of the development will receive government subsidizing.

PROGRAM
Apartments

	# Units	
	Low-Income	Market Value
1 BR	4	4
2 BR	7	6
3 BR	7	7
4 BR	3	3
	21	20
		41

Density: 12 Units/Acre on a 3.55 acre site

*This is the maximum number of residential units allowed per acre
as stated in the Conway Zoning Ordinance

Square Footage			Square Footage		
	Low-Income	Market Value		Low-Income	Market Value
1 BR			3 BR		
Living Room	200	300	Living Room	300	340
Dining Room	80	100	Dining Room	120	130
Kitchen	80	120	Kitchen	120	130
Bathroom	40	40	Bathroom (2)	60	60
Master Bedroom	200	230	Master Bedroom	200	240
Total	600	800	Bedroom (2)	100	120
2 BR			Total	1,000	1,200
Living Room	250	340	4 BR		
Dining Room	100	120	Living Room	340	400
Kitchen	100	120	Dining Room	120	140
Bathroom	50	60	Kitchen	120	140
Master Bedroom	200	240	Bathroom (2)	60	60
Bedroom	100	120	Master Bedroom	200	240
Total	800	1,000	Bedroom (3)	100	120
			Total	1,200	1,400

Total SF: 36,600

Each unit will have its own visual distinction from one another, despite being attached to save on construction and energy costs. They will have visual complexity created by variations in height, setbacks, roof shape, materials, openings, color, and other features to emphasize their individuality.

Every unit will have its own separate, visually defined entrance that can be individualized by each one's occupants. At or near each entrance will be storage space. There should be space that allows quick and easy placement and removal of a bicycle that makes it convenient for tenants to use them as alternatives to automobiles.

Inside the low-income units, the living, dining, cooking and entry areas will be combined. They do not have to be combined in the median-income units, but will be adjacent and accessible to one another. The private sleeping areas will be separated from these less private spaces. Circulation space between all spaces will be minimal.

Spaces of the same or similar use, such as bathrooms, will be located adjacent to each other vertically or horizontally to save on construction and utility costs.

The most used spaces, such as the living room, will have direct visual access to the shared exterior space of the community. This will give occupants the opportunity to see if the space is being used by others at a given time and possibly be encouraged to become involved in any activities that may be taking place there. It also will allow parents to supervise their children who may be playing there.

Living spaces will be oriented towards the best views and feature large window openings. Spaces will feel larger than they are if they have a strong visual connection to the outdoors. This condition will encourage tenants to occupy the space because here they will feel free and unrestrained as it spreads beyond itself visually.

The living room, dining room, and kitchen will be open to one another to increase the perception of a large space.

Large surface areas of windows will provide natural lighting and ventilation as well, reducing energy costs.

Public/Shared Space

Common Outdoor Space 20,000 SF

The shared outdoor spaces will be treated as "outdoor rooms." They will be designed with the same attention as any of the interior spaces. Site furniture will give residents a place to sit encouraging them to stay there for a period of time.

Direct accessibility to each unit will make it convenient for residents to use the space. If using it for a gathering such as a cook-out, it will be easy to bring items in and out of the units.

Visibility of the space from every unit will provide it security. Illegal activity will be less likely if others would be able to see it.

With a public environment encouraging use by its community, and direct access to it from each home, residents will have a sense of ownership and belonging with it

Support and Services

Office 500 SF

An office is needed to maintain all managerial services. Its location will be near the main entrance to the complex and easily recognized by non-residents who may be inquiring about the residences.

Storage Building for grounds keeping equipment 500 SF

Trash Removal and Recycling Area 500 SF

These spaces will be in a discrete area so not to interfere with community activity and not be seen from any of the units or common spaces.

Laundry Room (3) 400 SF

These will have direct access to exterior common spaces. Residents who use these facilities will have to travel through the common spaces from their units to get to them, increasing the likelihood of social interaction with other members of the community.

Parking

1 space for each 1 BR unit

2 spaces for each 2-4 BR units

Parking spaces will be immediately adjacent to each unit for convenience and security. They will be located on the opposite side of the units from the shared exterior space, so that vehicles will not interfere with pedestrians.

Spaces for the universally accessible units will meet code requirements for handicapped parking.

Traffic calming strategies will be applied to vehicle pathways to accommodate pedestrian use of exterior spaces.



Fig. 7

Low-Income 1 BR Apartment (x 4)

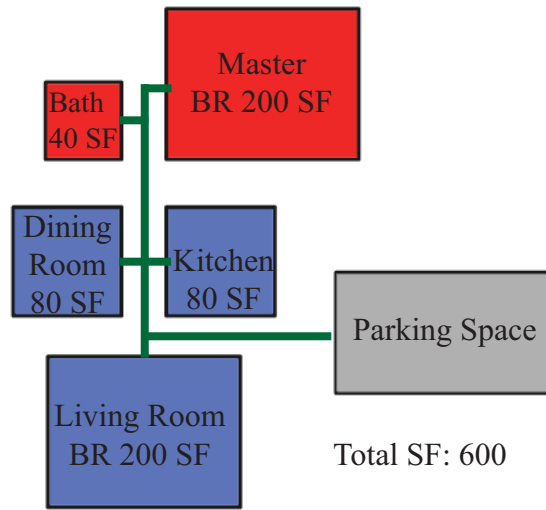


Fig. 8

Market-Rate 1 BR Apartment (x 3)

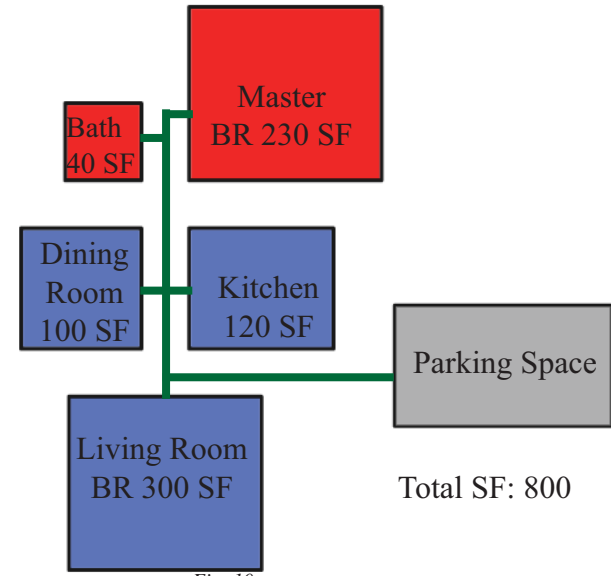


Fig. 10

Low-Income 2 BR Apartment (x 7)

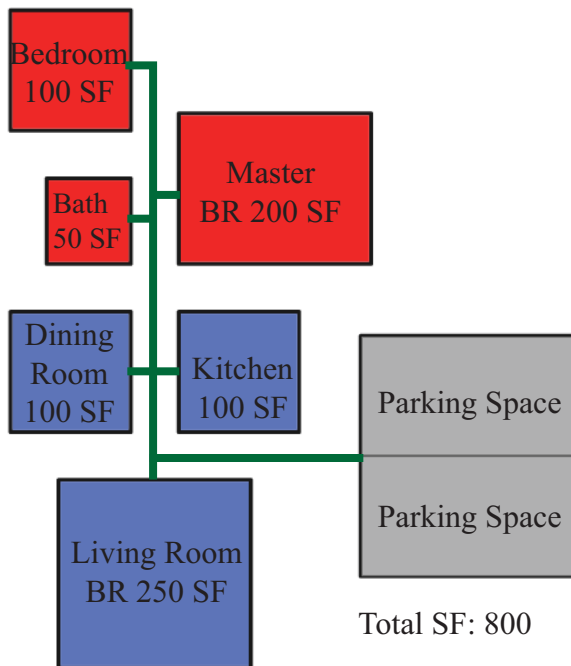


Fig. 9

Market-Rate 2 BR Apartment (x 7)

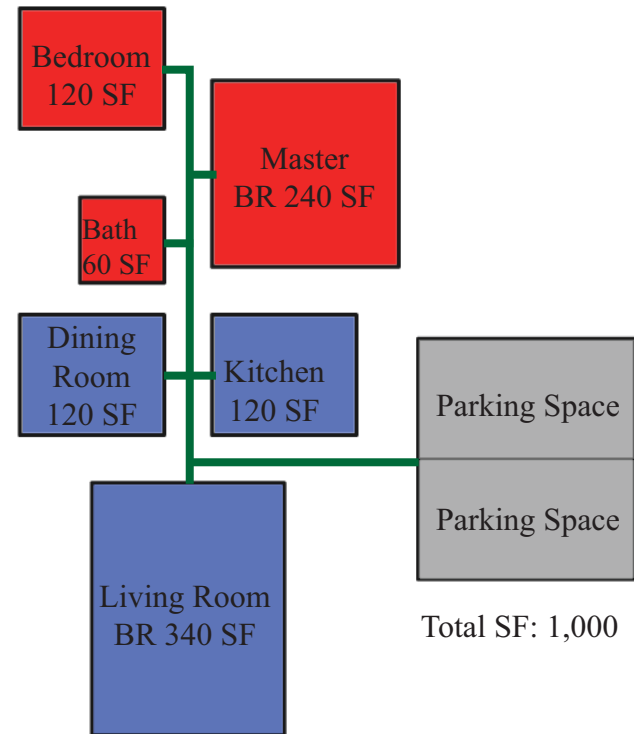


Fig. 11

Low-Income 3 BR Apartment (x 7)

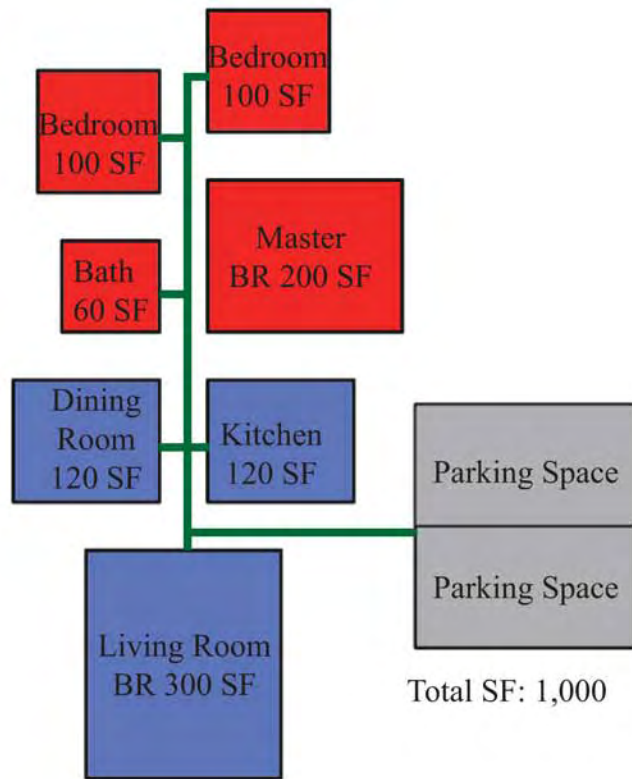


Fig. 12

Market-Rate 3 BR Apartment (x 7)

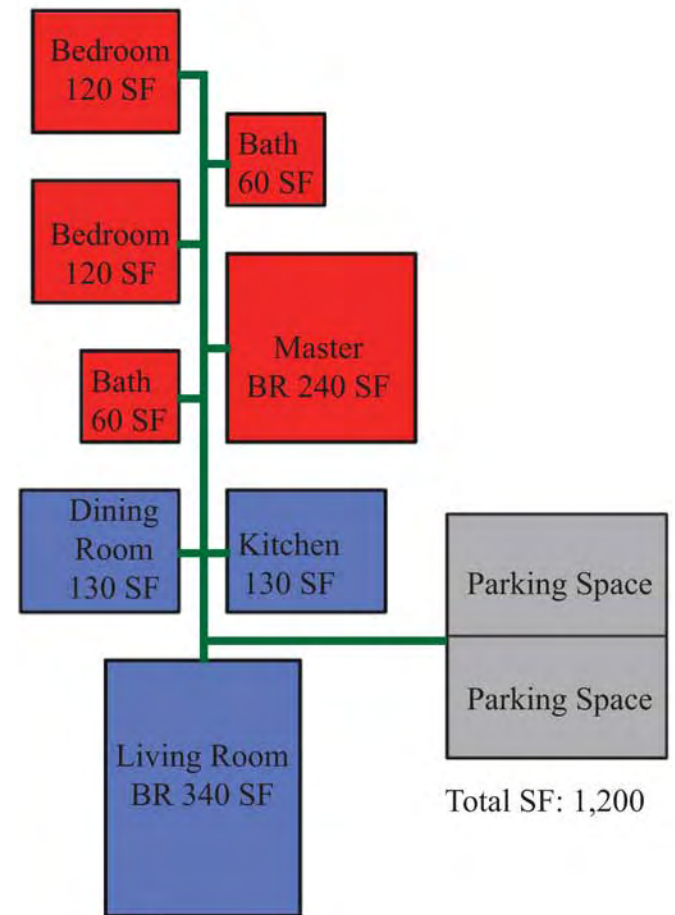


Fig. 13

Low-Income 4 BR Apartment (x 3)

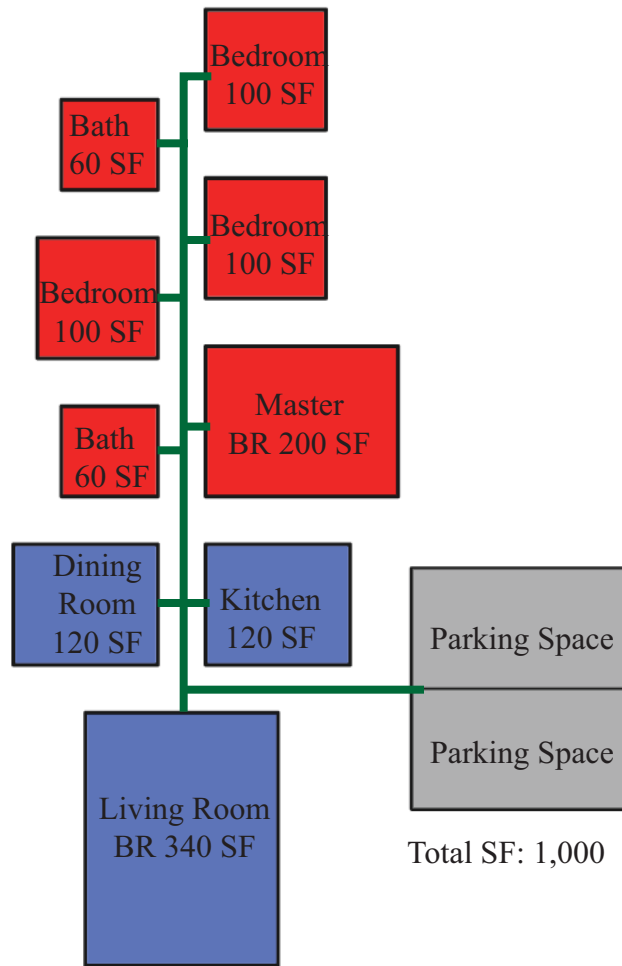


Fig. 14

Market-Rate 4 BR Apartment (x 4)

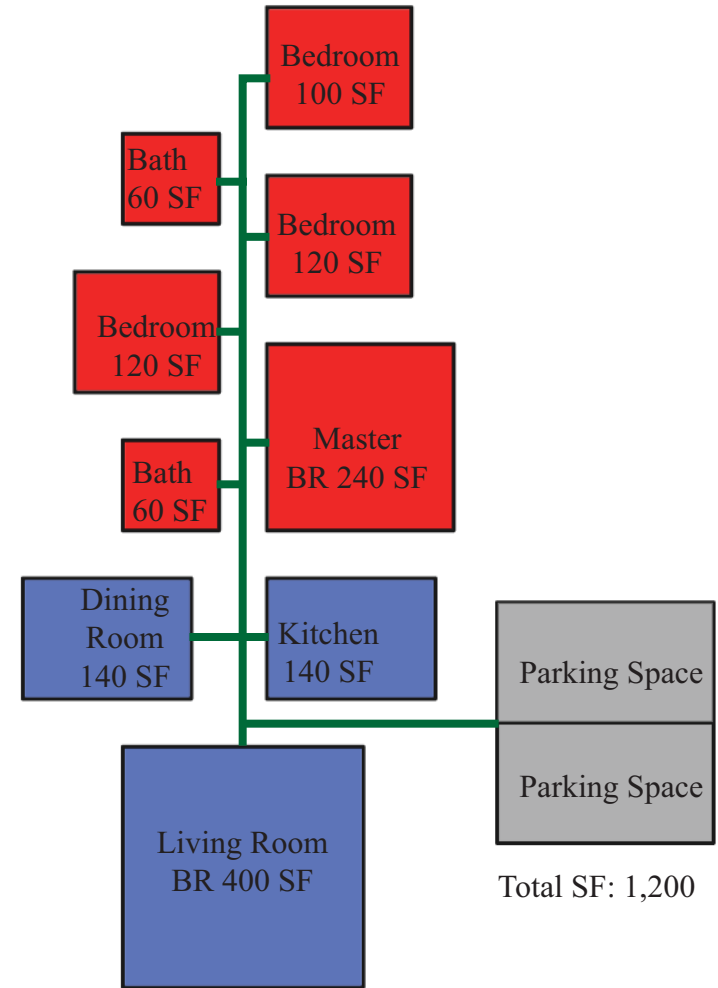
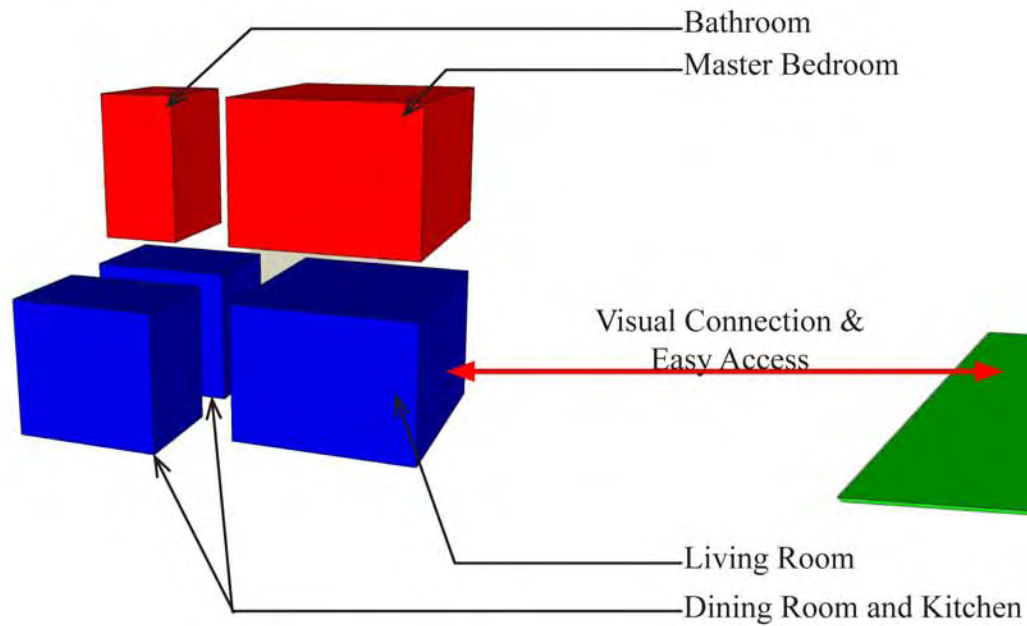


Fig. 15

Spatial Relationships



1 Bedroom Apartment

The more public spaces of the units, such as the living room, kitchen, and dining room, are on the same level as the common outdoor space. The most private spaces, such as the bedrooms, in these cases, are separated by being a level above.

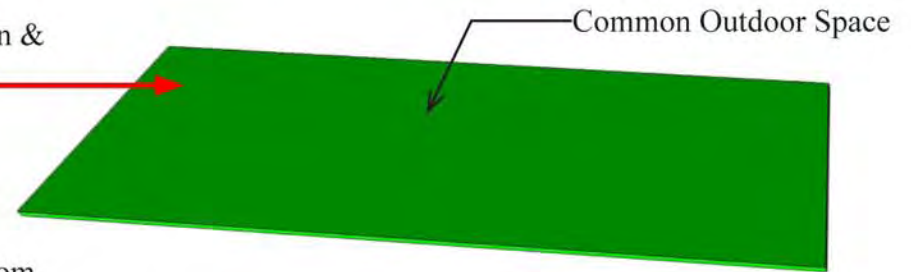


Fig. 16

2 Bedroom Apartment

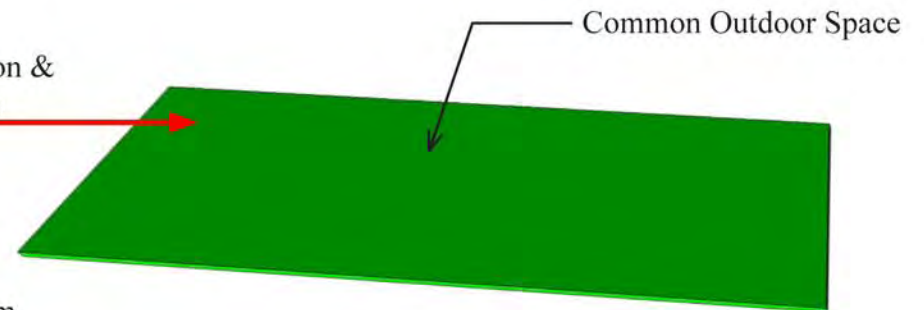
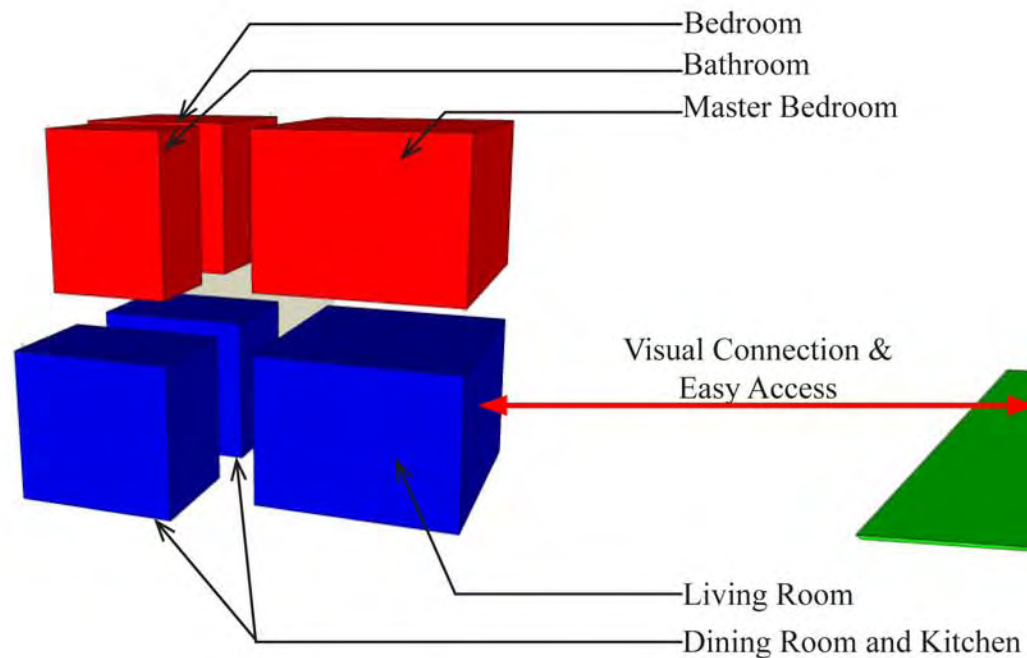
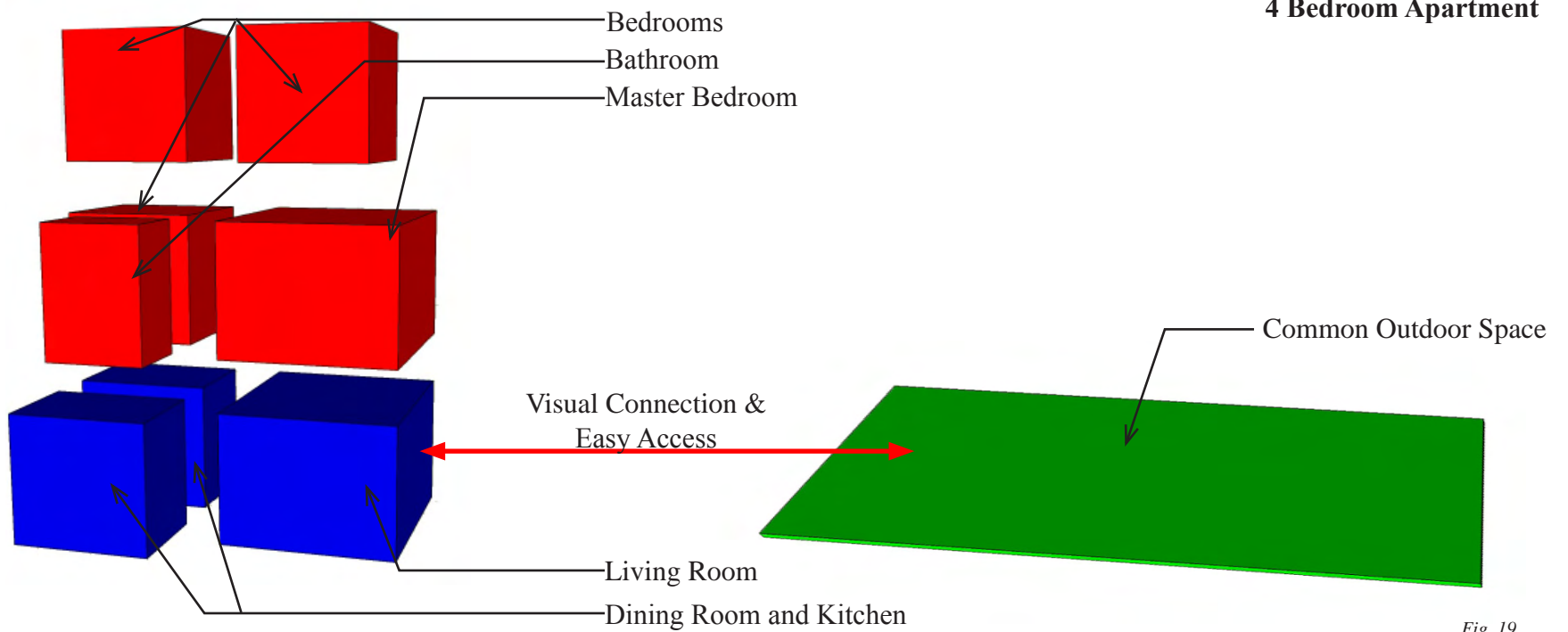
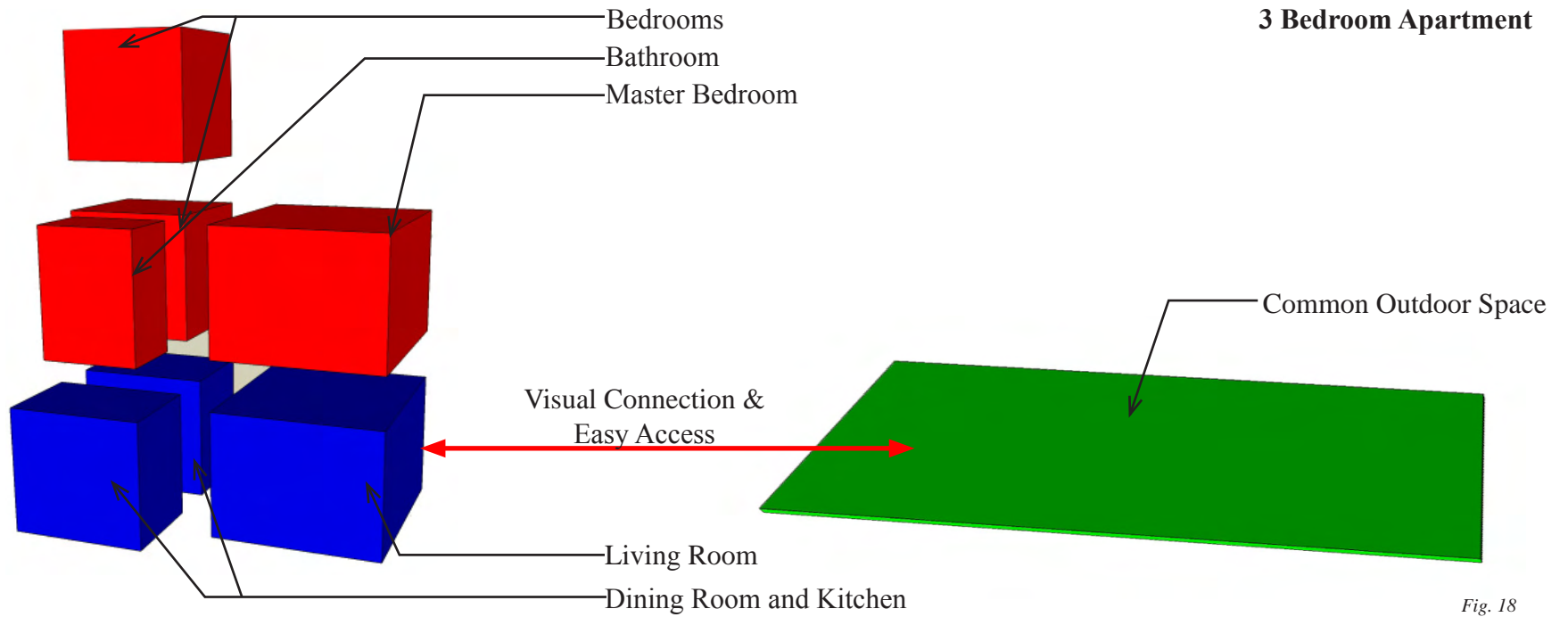
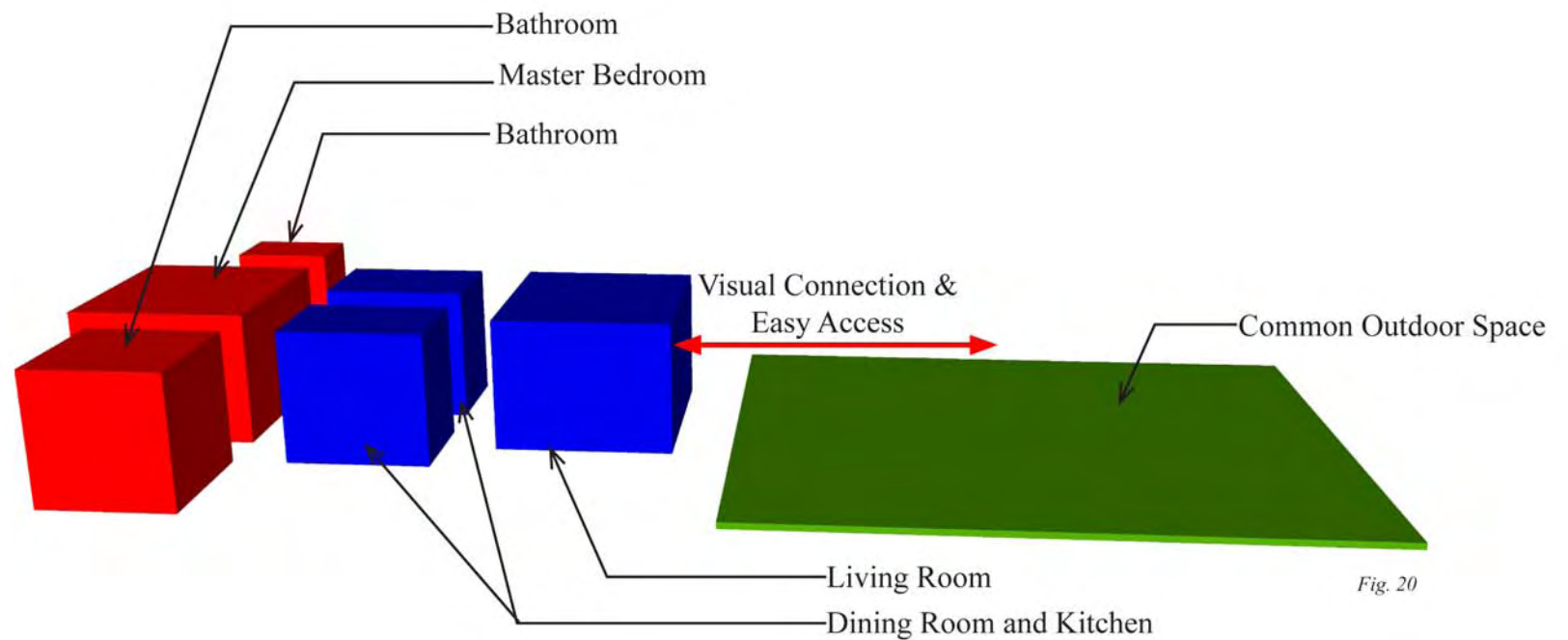


Fig. 17
18



This horizontal arrangement of a unit's spaces demonstrates how the living areas act as a buffer between the common outdoor space and the private areas of the house like the bedrooms and bathrooms.



Possible Arrangement

Shown here are units together in parallel rows with a common outdoor space in between. This creates a space that every unit in the complex is connected to in order to promote community interaction.

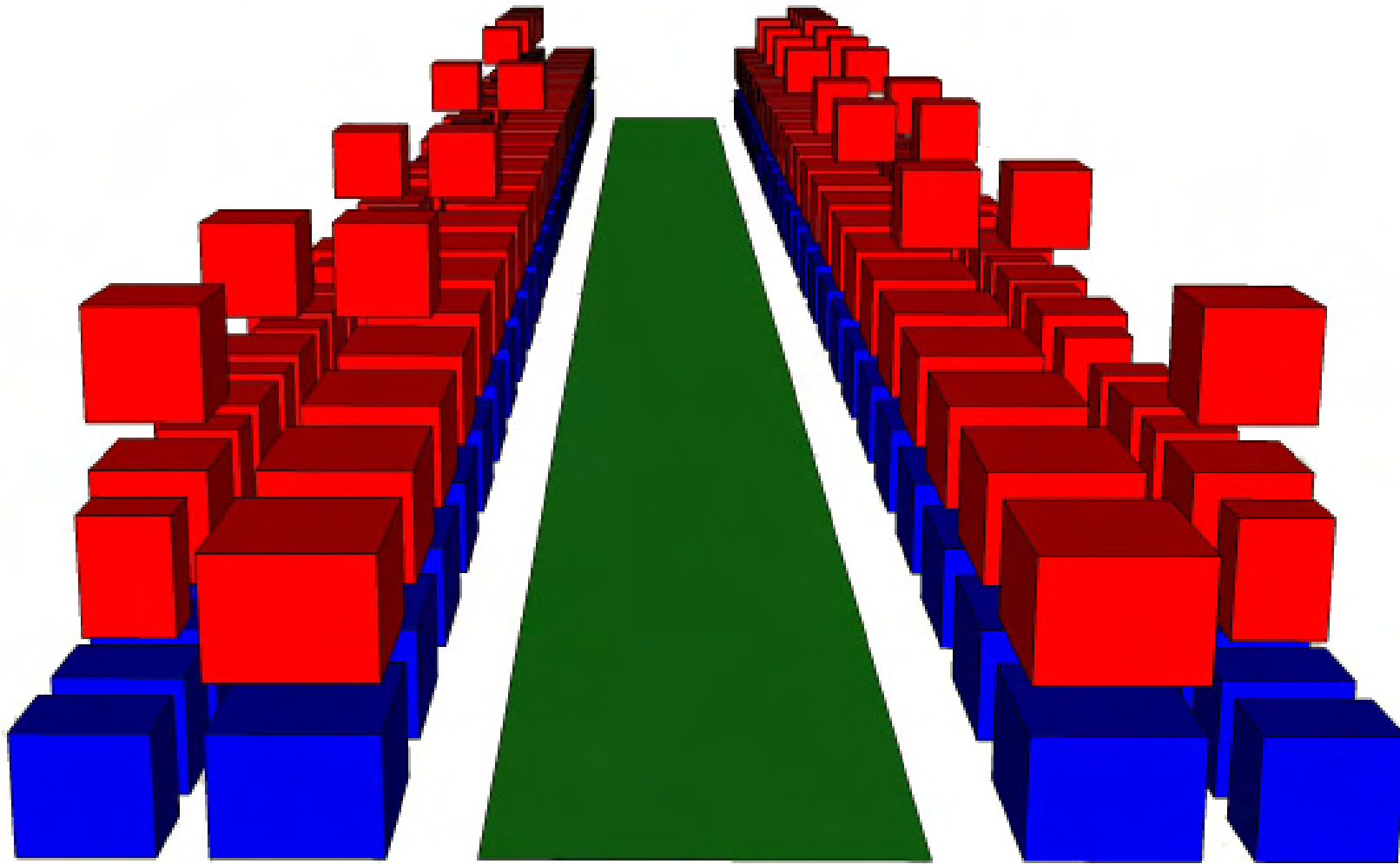


Fig. 21

Possible Arrangement

In this arrangement, parallel rows of units are broken down into separate clusters, each with its own community space. This may be an ideal arrangement if it is desirable to group different types of units together.

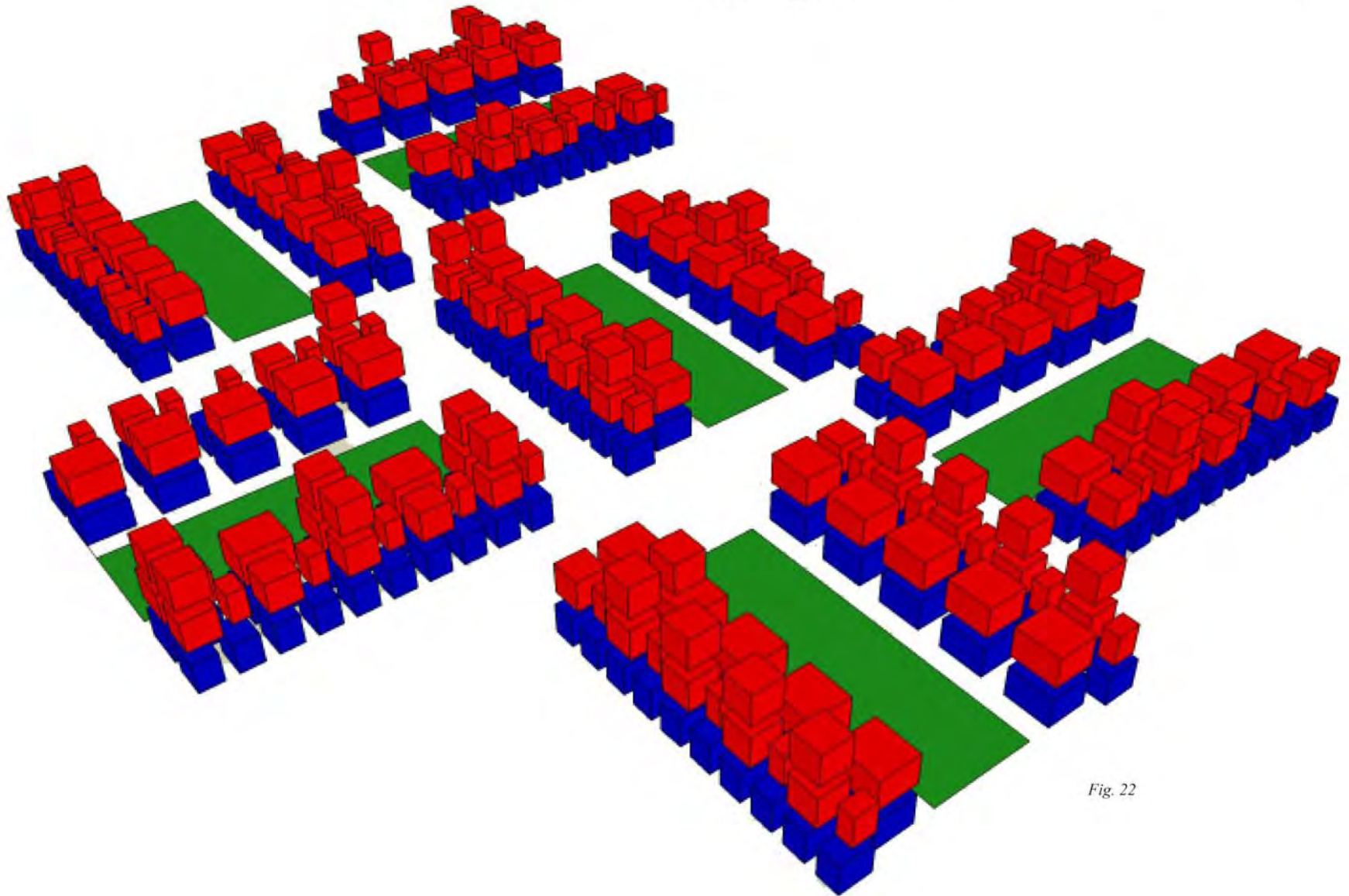


Fig. 22

Possible Arrangement

In this scheme, units are organized sporadically to add visual complexity to the project.

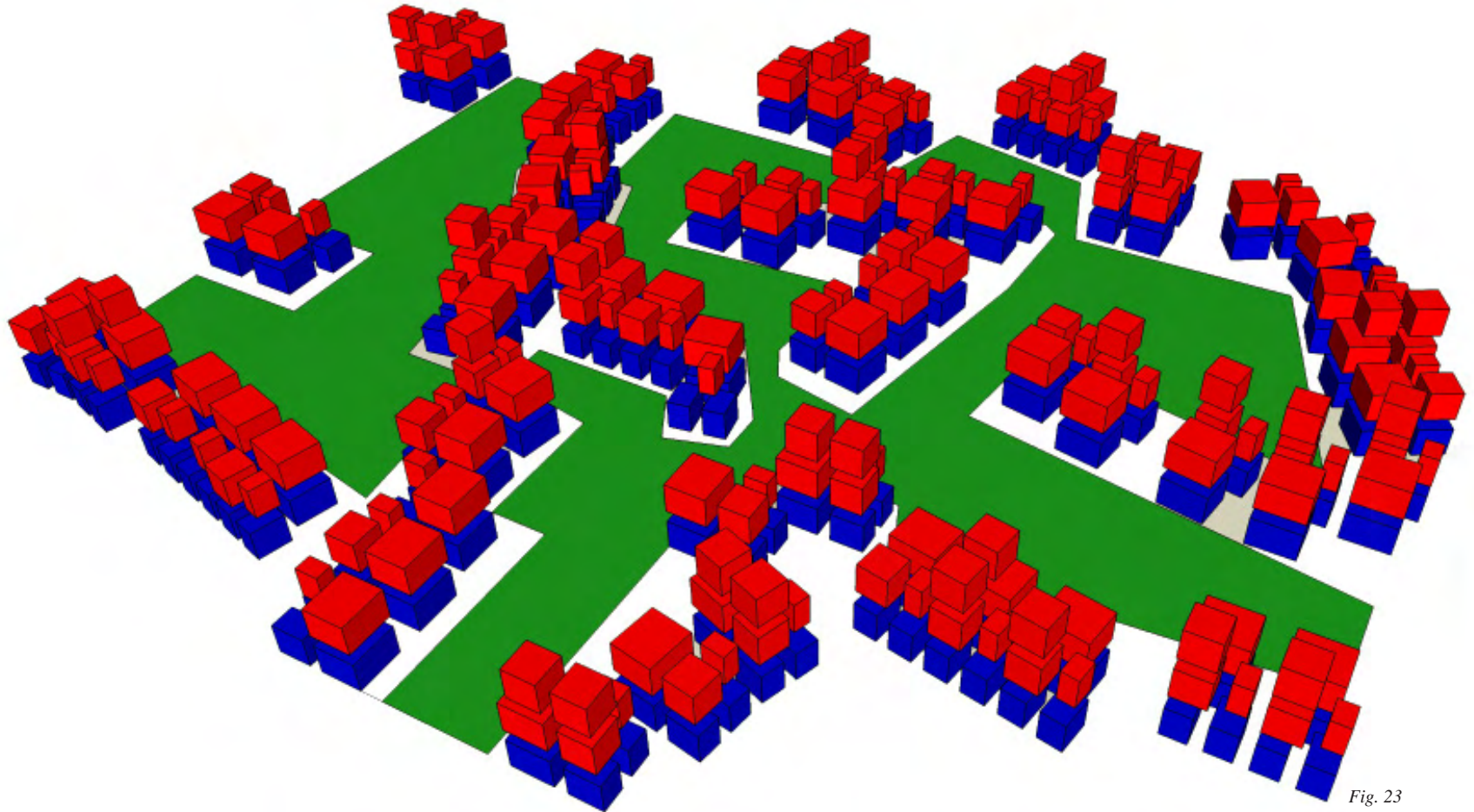


Fig. 23

SITE IDENTIFICATION



The site's location is in North Conway, New Hampshire. North Conway refers to one of the three main villages in the town of Conway and its nearby neighborhoods. Conway is in Carroll County, one of New Hampshire's nine counties.

Fifteen miles northwest of the town is Mount Washington, the tallest mountain in the eastern United States. The region around it is referred to as the Mount Washington Valley, which the town is a part of. The mountainous landscape attracts tourists to the Mount Washington Valley, to North Conway in particular, from all over New England.

Conway was chartered as a town in 1765. In the 19th century, the area became popular for artists who would visit to paint the picturesque landscape. This then attracted tourists. In 1872, visiting the area became easier and more popular when a railroad connected the town to Portsmouth, NH which was along the main travel route from Massachusetts to Maine. Today the Mount Washington Valley is still a tourist destination more than anything else, with Conway being its primary place to stay.

Conway Statistics

Population (2007):

Conway:	9,178
Carroll County:	47,380

Demographics (2000 Census)

Educational Attainment, population 25 years and over	
High school graduate or higher	87.8%
Bachelor's degree or higher	22.5%

Annual Income, (1999 US Census Bureau)

Per capita income	\$19,673
Median 4-person family income	\$41,818
Median household income	\$35,873
Median Earnings, full-time, year-round workers	
Male	\$30,366
Female	\$21,275
Families below the poverty level	8.0%

Employment and Wages

Annual Average Covered Employment (2007)

Goods Producing Industries	
Average Employment	952
Average Weekly Wage	\$747
Service Providing Industries	
Average Employment	6,863
Average Weekly Wage	\$512
Total Private Industry	
Average Employment	7,815
Average Weekly Wage	\$541
Government (Federal, State, and Local)	
Average Employment	669
Average Weekly Wage	\$665
Total, Private Industry plus Government	
Average Employment	8,483
Average Weekly Wage	\$550

Labor Force (2007)

Employed	5,202
Unemployed	185
Unemployment rate	3.4%

*The total industry average employment is 8,483 while the town's total labor force is 5,202, making it clear that there are many workers from out of town who cannot afford the housing costs of Conway.

COMMUTING TO WORK (US Census Bureau)

Workers 16 years and over

Drove alone, car/truck/van	80.0%
Carpooled, car/truck/van	10.3%
Public transportation	0.4%
Walked	4.2%
Other means	1.1%
Worked at home	4.0%

Mean Travel Time to Work 17.2 minutes

Percent of Working Residents:

Working in community of residence	74%
Commuting to another NH community	21%
Commuting out-of-state	5%

LARGEST BUSINESSES

	EMPLOYEES
Memorial Hospital Health	350
Conway School District	274
Hannaford Brothers Supermarket	175
Red Jacket Inn	156
Wal-Mart Retail Store	140-170
North Conway Grand Hotel	80-100

HOUSING SUPPLY (2007)

Total Housing Units	6,574
Single-Family Units	3,703
Multi-Family Units	2,109
Manufactured Housing Units	763

SITE

The site for the project is located less than a mile North of North Conway Village and a mile South of the Conway-Bartlett border.

The village is the heart of the town with many shops and attractions for residents in tourists. This provides many of the town's jobs for the local work force.

The site's close proximity to the village gives residents of the complex an opportunity to have jobs not far from home.

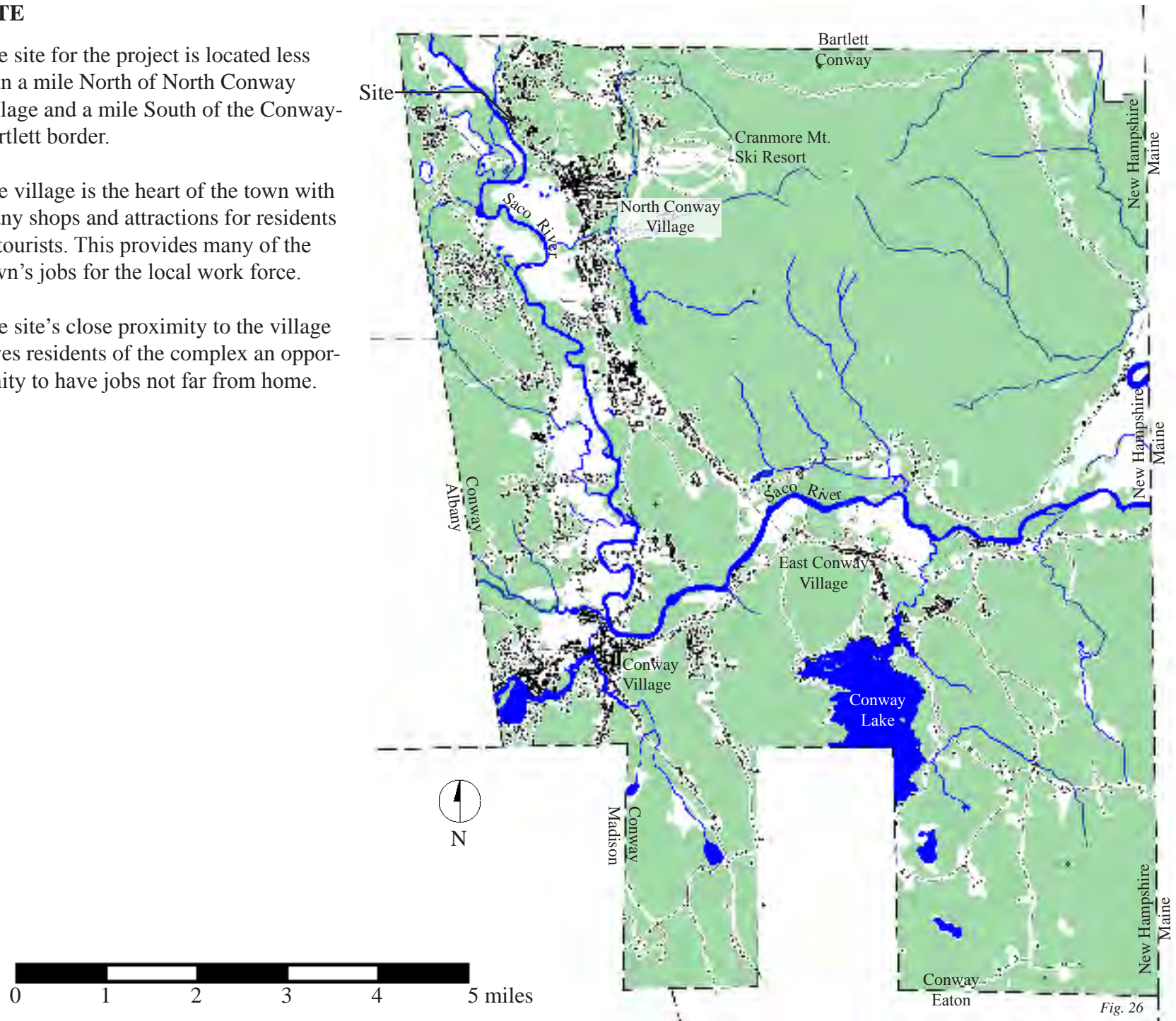
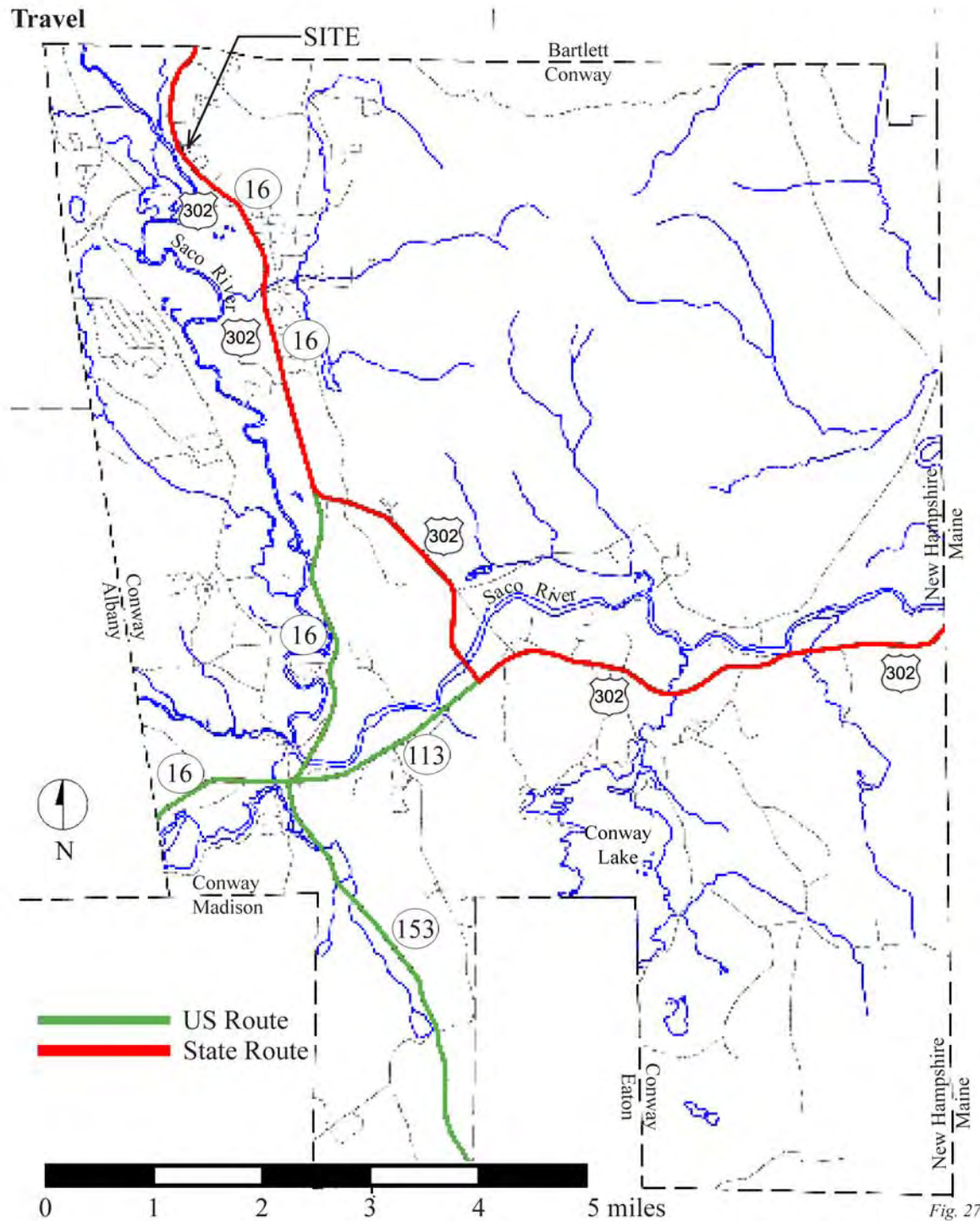


Fig. 26



Route 16, also called the White Mountain Highway, is the most heavily traveled road in the town of Conway, connecting what is north and south. The site's location is on this road and is highly exposed and visible to those driving by. This gives exposure to the complex to the public for an opportunity for its recognition. This supports the architectural intention of developing a project in which the public can admire and respect.

Nearest Interstate Exit:

I-93 Exit 23 - 38 miles

Nearest Commercial Airport:

Portland, ME - 60 miles

Fig. 27



Fig. 28

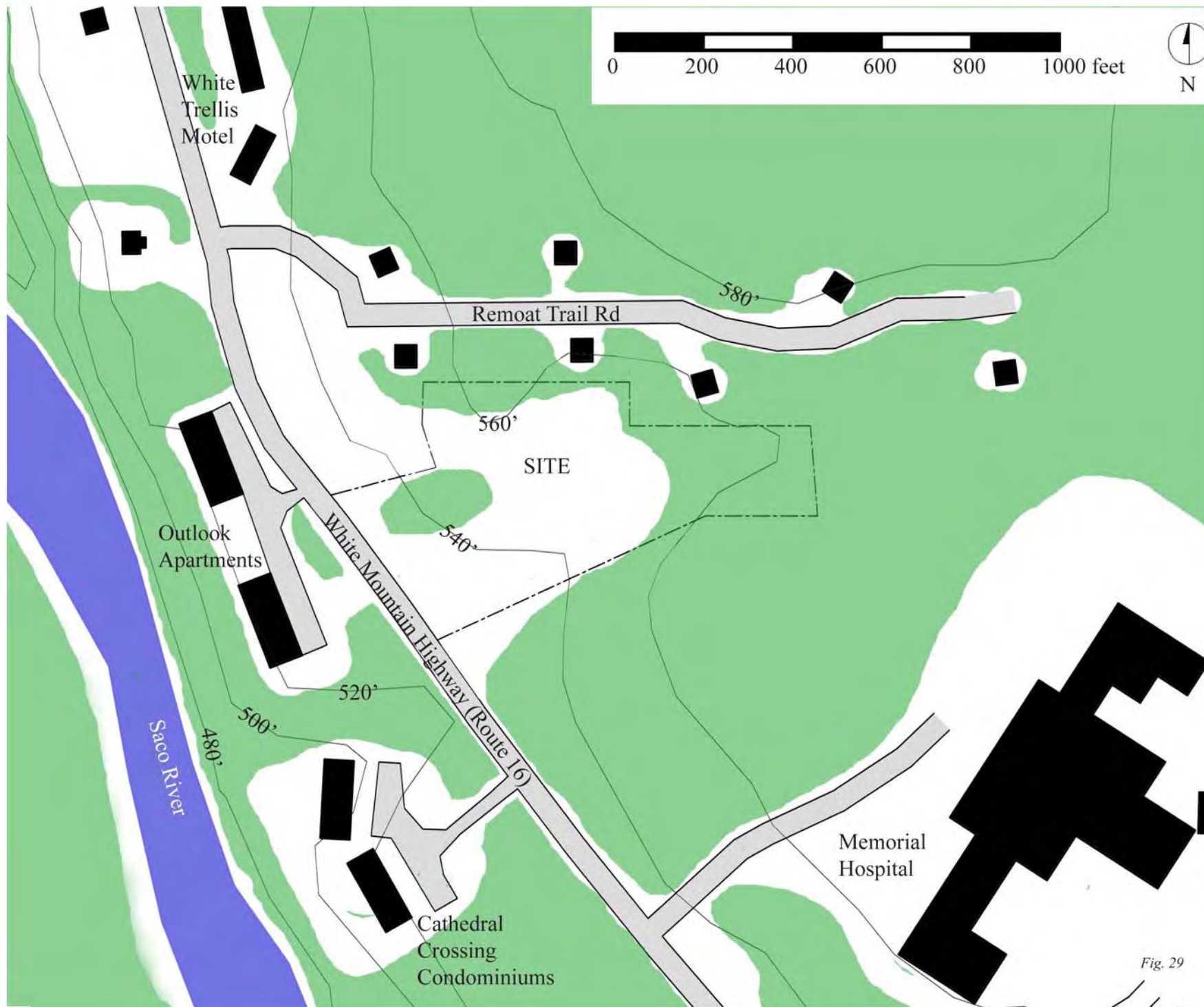
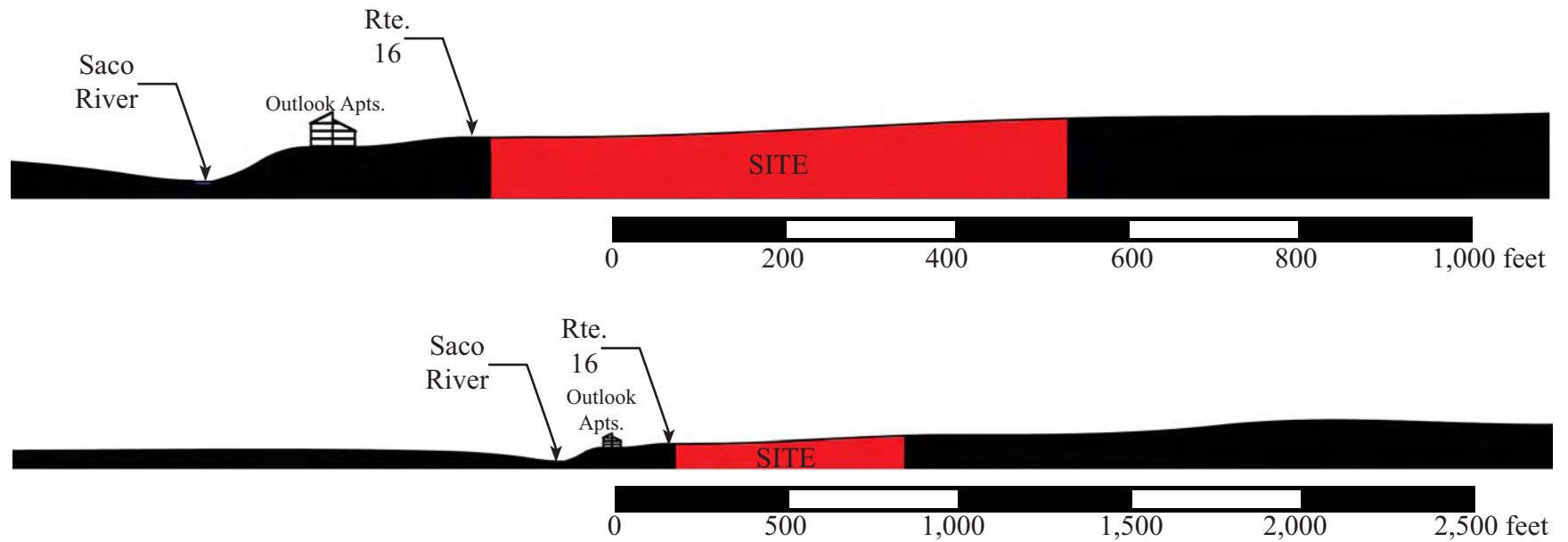
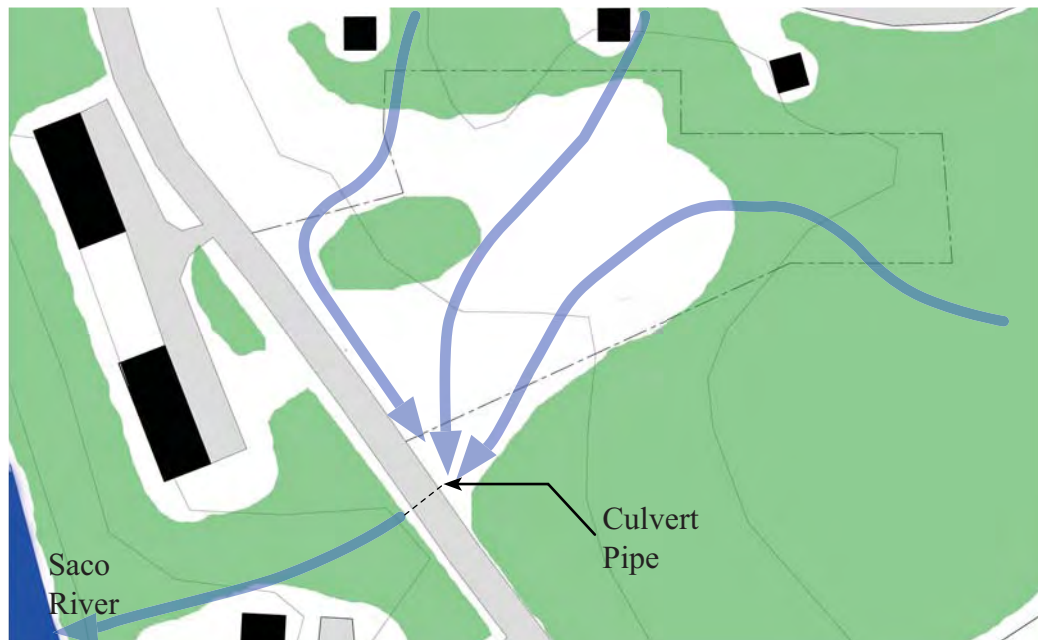


Fig. 29

Site Sections

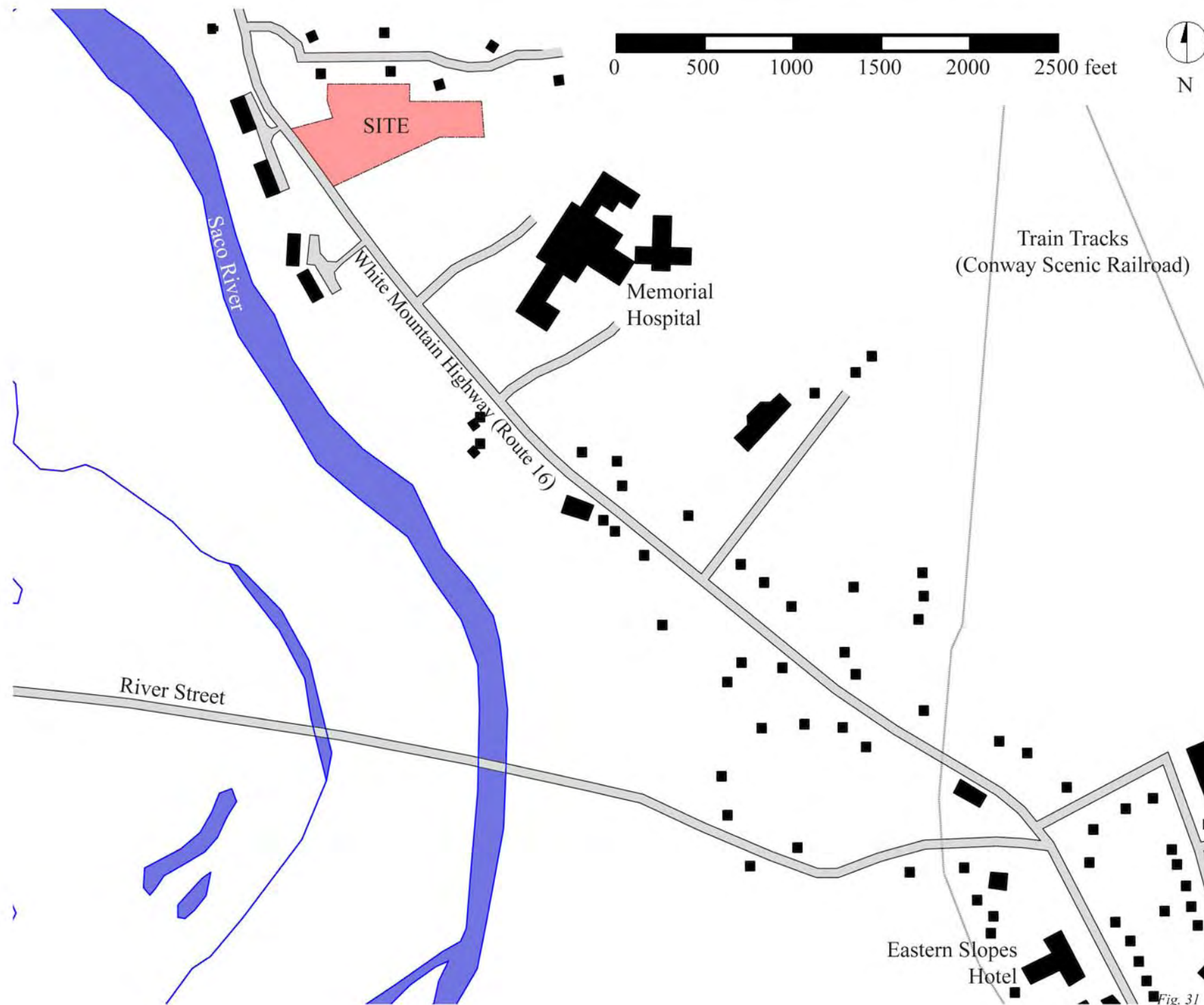


Site Drainage



The site drains to its southern corner and underneath Route 16 through a culvert pipe before going down into the Saco River. The Saco River is the drain for the entire town of Conway. All brooks and streams in the area make their way to it at some point.

Fig. 30



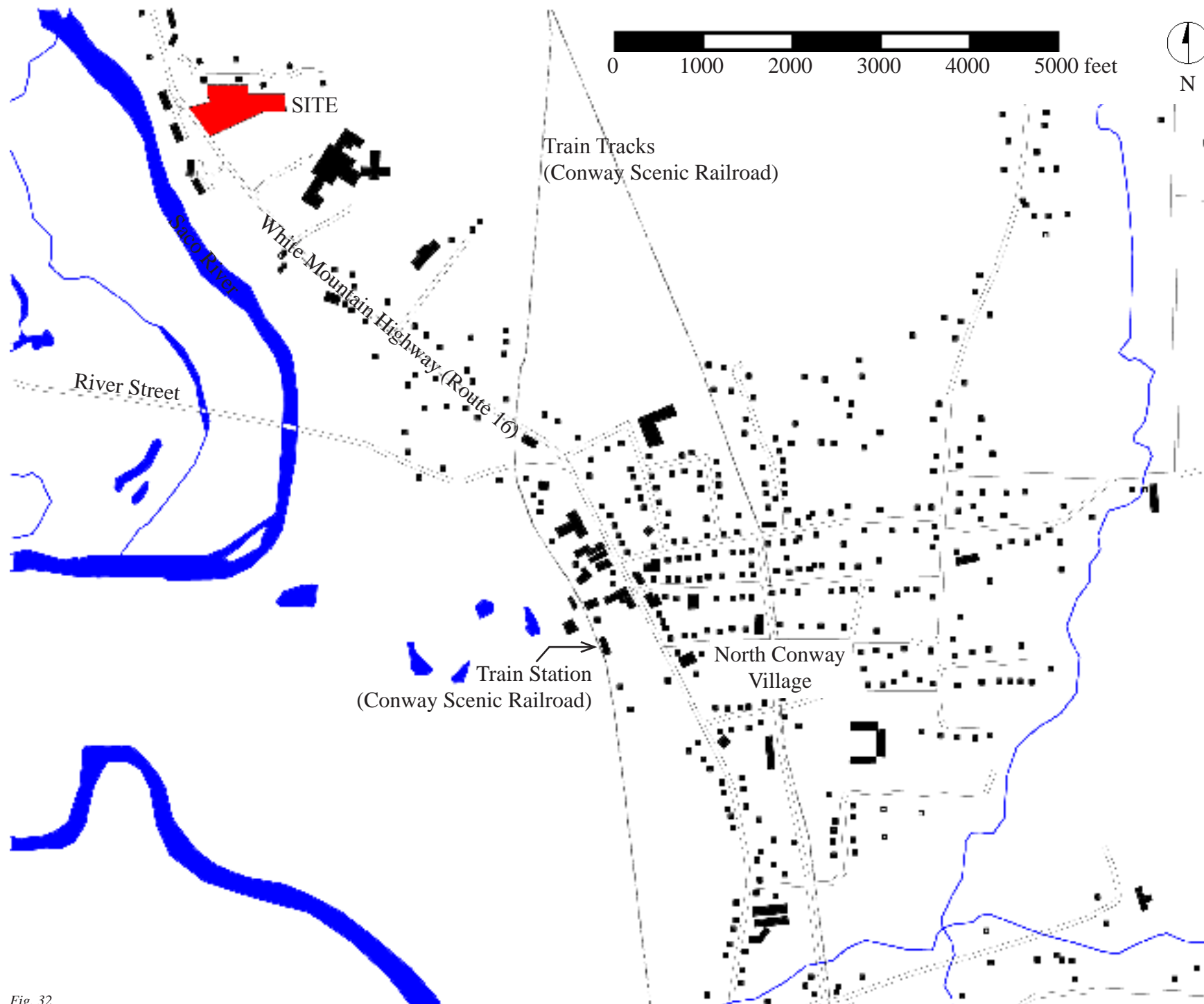


Fig. 32



Aerial View of Site and Surroundings (Provided by Google Earth)



Fig. 34



N

Fig. 35

Bird's Eye View of Site (Provided by Microsoft Virtual Earth)

Site Advantages

It is a goal of the project to fit comfortably in its neighborhood. An advantage of this site is its adjacency to nearby apartments, condominiums, and single-family homes. Therefore the program will not look out of place when seen in the vicinity of other buildings of the same and similar programs. The opportunity to create an interactive residential community may be enhanced by the presence of these neighbors.

The residences that neighbor the site are several single family homes, Outlook Apartments, and Cathedral Crossing Condominiums. The single-family homes neighbor the site to the north and are accessed by a private road off Route 16. Outlooks Apartments and Cathedral Crossing neighbor the site to the west just across Route 16.

An appealing feature this site benefits from is its view of Cathedral Ledge in the distance. It is a 500 foot high cliff to the west of the site that is one of the many scenic tourist attractions in the area.

Cathedral Ledge



Fig. 36



Fig. 37

Cathedral Crossing
Condominiums



Fig. 38

Outlook
Apartments



Fig. 39

Neighboring
Houses

Views of/from Site



Fig. 40



1. View South from Route 16

Fig. 41



2. View North from Route 16

Fig. 42



3. View from Across Street

Fig. 43



4. View from Across Street

Fig. 44



5. View from Site

Fig. 45



6. View of Outlook Apartments and Cathedral Ledge

Fig. 46



7. View North from Site

Fig. 47



8. Neighboring House

Fig. 48



9. View on Site

Fig. 49



10. View on Site

Fig. 50



11. View on Site

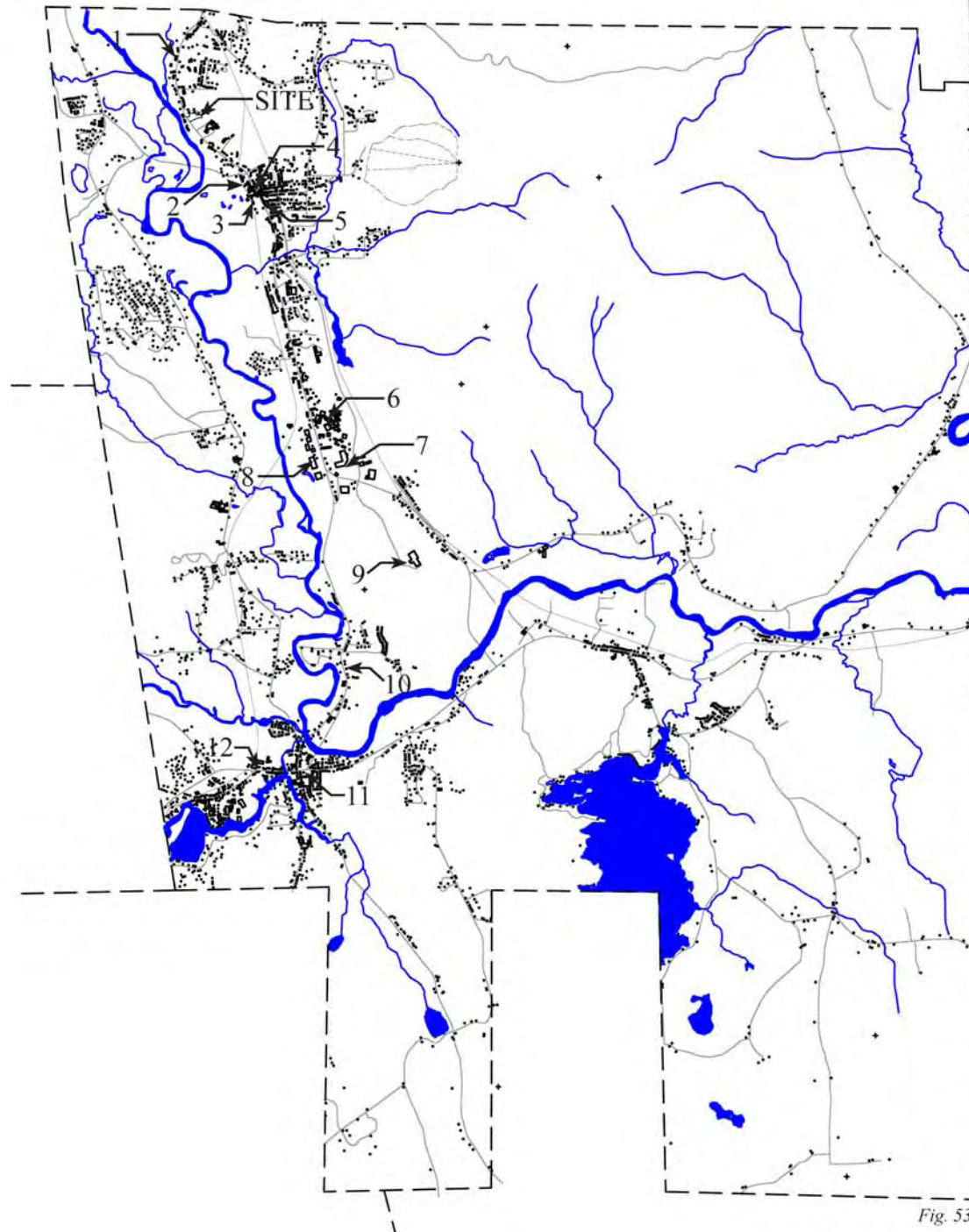
Fig. 51



12. View from Site

Fig. 52

Vernacular Architecture



1. Adventure Suites
2. Eastern Slopes Hotel
3. Conway Scenic Railroad Train Station
4. North Conway Village Stores
5. North Conway Village (Main St)
6. Settler's Green Shopping Outlet
7. Strip Mall
8. Settler's Crossing Shopping Outlet
9. Kennett Regional High School
10. Technology Village
11. Conway Public Library
12. Kennett Middleschool (Former High School)



1. Adventure Suites

Fig. 54



2. Eastern Slopes Hotel

Fig. 55



3. Conway Scenic Railroad Train Station

Fig. 56



4. North Conway Village Stores

Fig. 57



5. North Conway Village (Main St)

Fig. 58



6. Settler's Green Shopping Outlet

Fig. 59



7. Strip Mall

Fig. 60



8. Settler's Crossing Shopping Outlet

Fig. 61



9. Kennett Regional High School

Fig. 62



10. Technology Village

Fig. 63



11. Conway Public Library

Fig. 64



12. Kennett Middleschool (Former High School)

Fig. 65

Transportation

Public Transportation

The only forms of public transportation available in Conway are three on-call taxi services and an interstate bus.

Bus

Concord Coach Lines

7 Langdon Street
Concord, NH 03301
1-800-639-3317
www.concordcoachlines.com

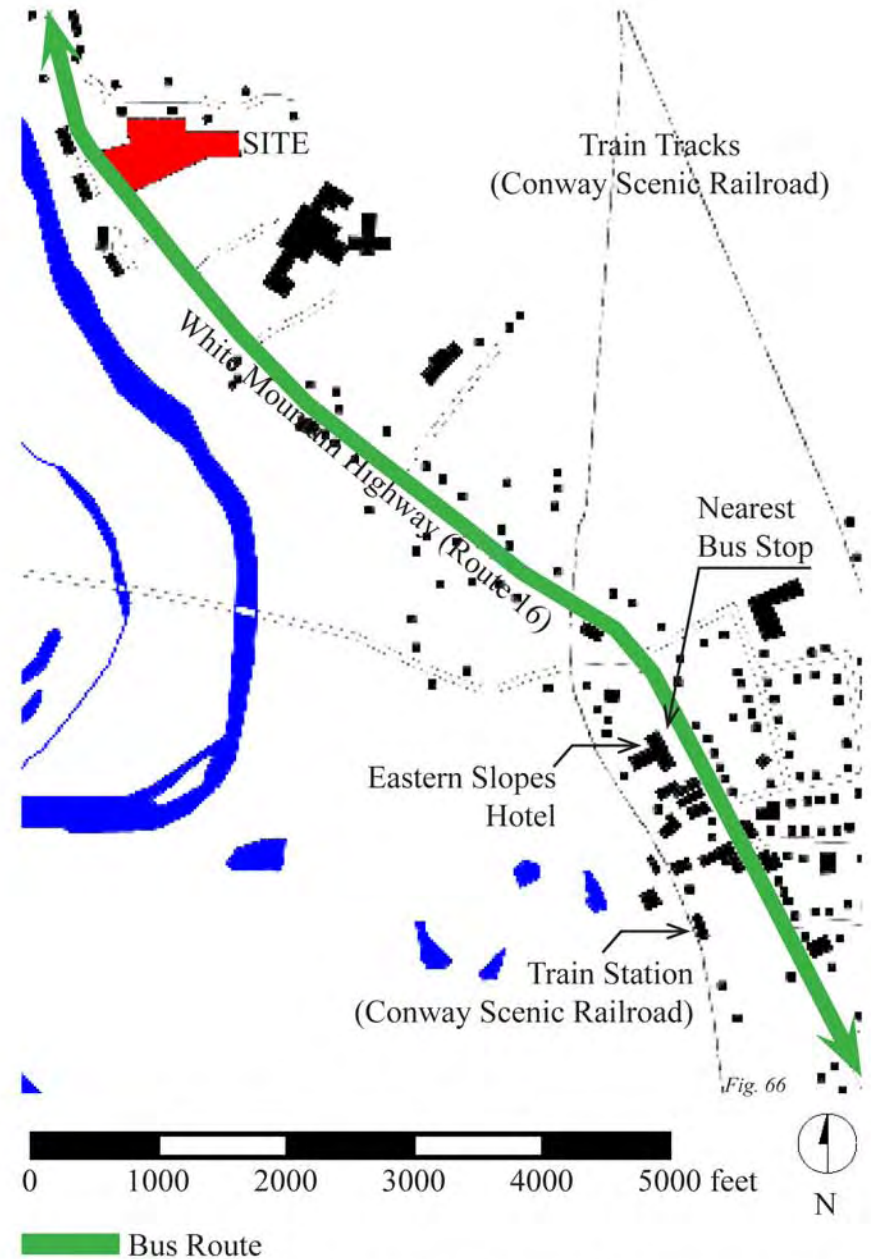
Concord Coach Lines schedules one bus route through Conway twice a day both north and south bound along route 16. There are two stops, one in Conway Village and one in North Conway Village. The route goes as far north as Berlin, New Hampshire and as far south as Boston, Massachusetts to South Station and Logan Air port. The stop nearest the site is 0.8 miles south at the Eastern Slopes Hotel.

Taxi

Fast Taxi
Rte. 16
North Conway, NH 03860
1-800-829-4222
www.fasttaxi.com

Turtle Taxi
North Conway, NH
603-356-7577
www.turtletaxi.net

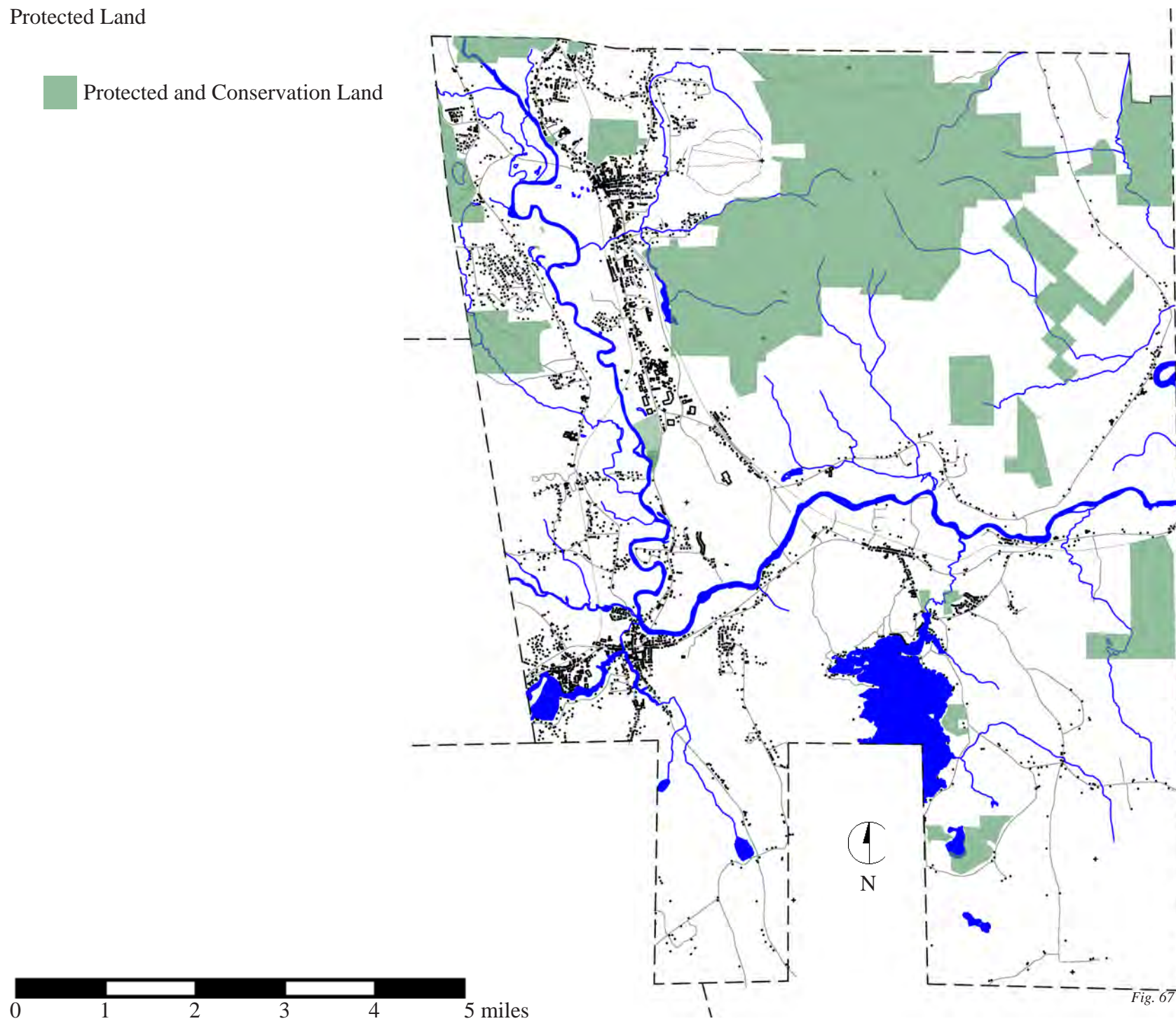
Village Taxi
44 East Conway Rd
Center Conway, NH
603-356-3602
www.wmtransit.com



*The Conway Scenic Railroad is not used for transportation. It is a tourist attraction that brings passengers for a site-seeing trip from Conway up to the top of Mount Washington.

Protected Land

Protected and Conservation Land



Climate Data

NORTH CONWAY, NH

44°3'11" N 71°7'41"W

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Average Precipitation (in)	2.9	2.1	3.1	8.7	3.7	2.9	4.0	2.7	2.7	4.9	5.7	5.7	49.1
Average Snowfall (in)	25.0	54.2	22.2	3.1	0.0	0.0	0.0	0.0	0.0	0.0	1.7	40.8	147.0
Average Snow Depth (in)	9.7	11.8	5.6	2.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6.7	9.7
Average Temperature (F°)	20.8	15.8	28.3	39.6	54.9	63.3	66.2	66.6	59.6	51.3	33.4	20.5	43.3
Average Max Temperature (F°)	28.8	25.5	40.0	49.1	68.0	73.5	76.7	79.4	72.3	61.5	41.9	28.8	53.8
Average Min Temperature (F°)	12.7	6.0	16.5	30.1	41.8	53.1	55.7	53.8	46.8	41.0	24.9	12.1	32.9

Physical Features

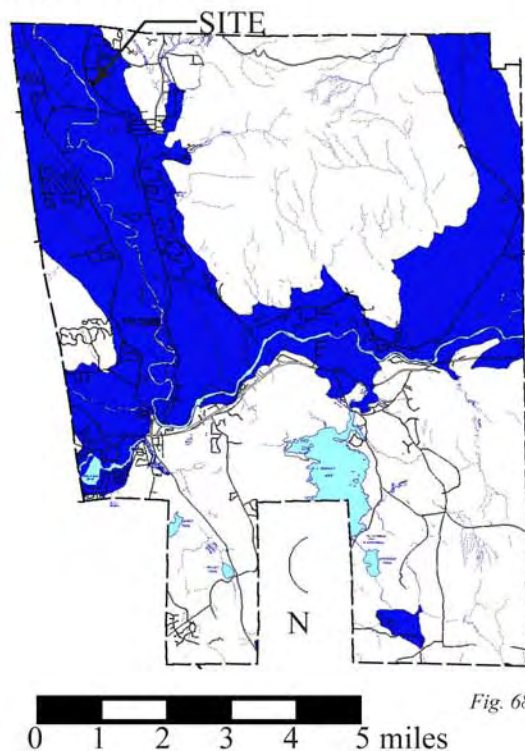
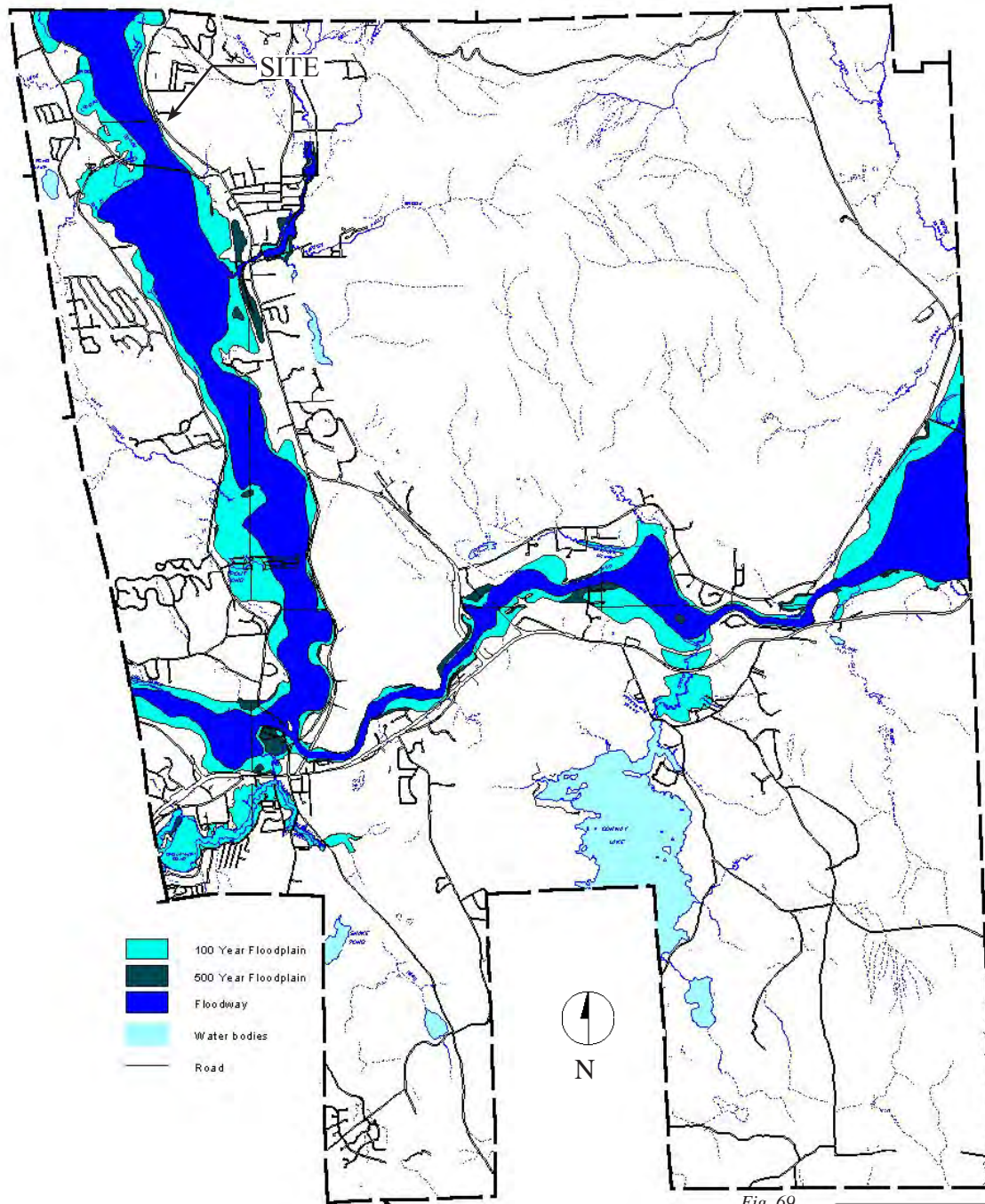


Fig. 68

The site is situated on a large aquifer that contains plentiful groundwater.

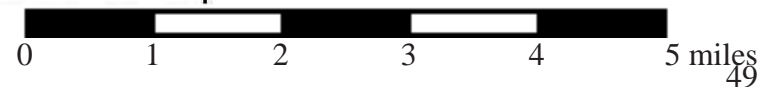
Soil: The site's soil is till, deposited directly from glaciers.

Flood Plains



The site is clear of both the 100 and 500 year flood plains from the Saco River.

Fig. 69



Slopes

The site is located on an area with a 0-15% slope.

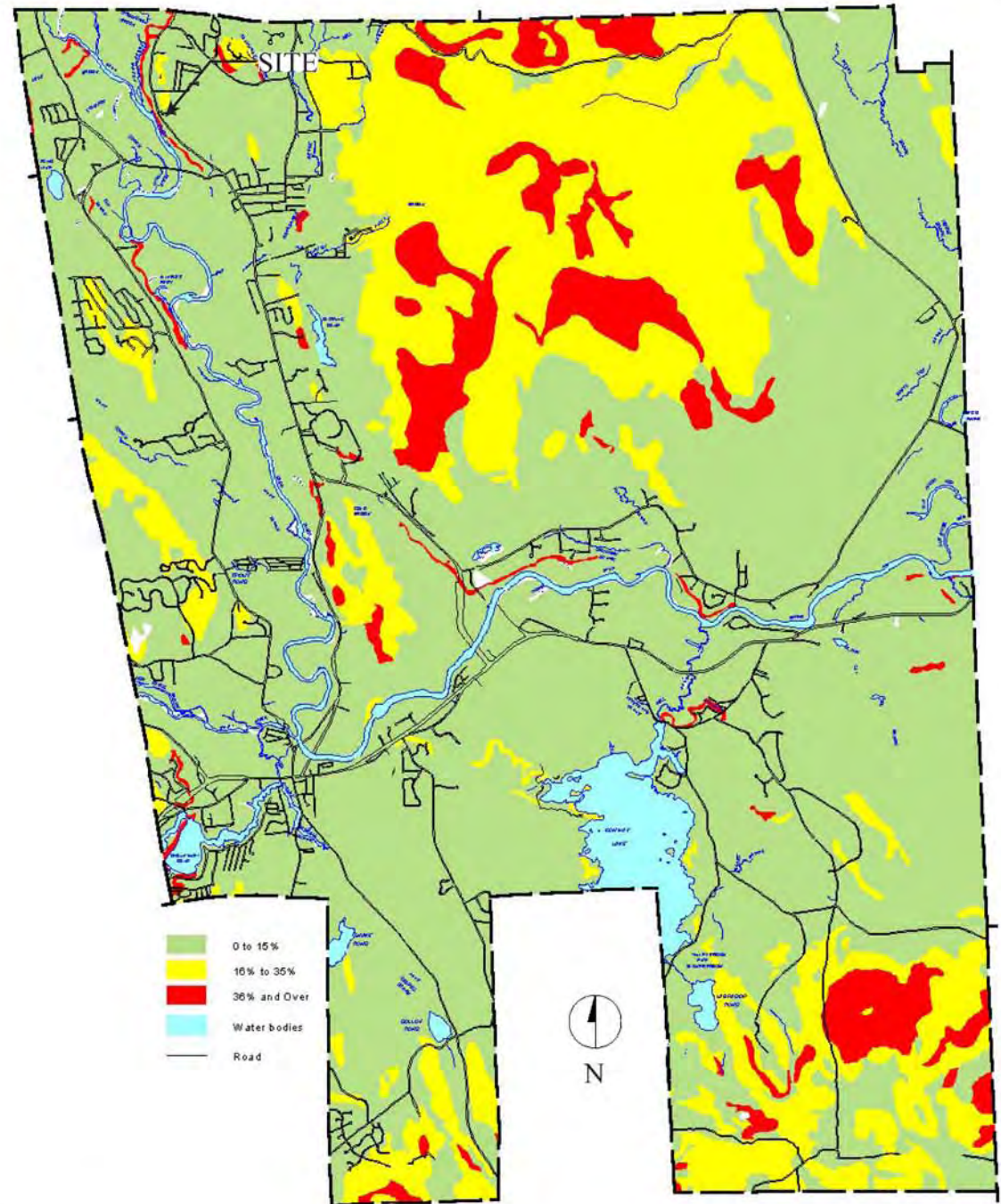


Fig. 70

0 1 2 3 4 5 miles

CHAPTER 147-ZONING ORDINANCE

Most Recently Revised: April 8, 2008

Previous Revision: April 10, 2007

The site's location is within the North Conway area north of North Conway Village within the Highway Commercial (HC) District. This district is divided into four different areas all along town's main transportation route, Rte. 16.

147.13.8 HIGHWAY COMMERCIAL (HC) DISTRICT.

The HC District is primarily designed to accommodate a compatible mixture of uses that complement commercial and residential uses typically associated with transportation corridors, large traffic flows and convenient access. The areas of this district that are serviced by municipal water and sewer can accommodate development at higher densities.

147.13.8.1.4 NORTH CONWAY AREA NORTH OF NORTH CONWAY VILLAGE.

147.13.8.1.4.1 DISTRICT MAP.

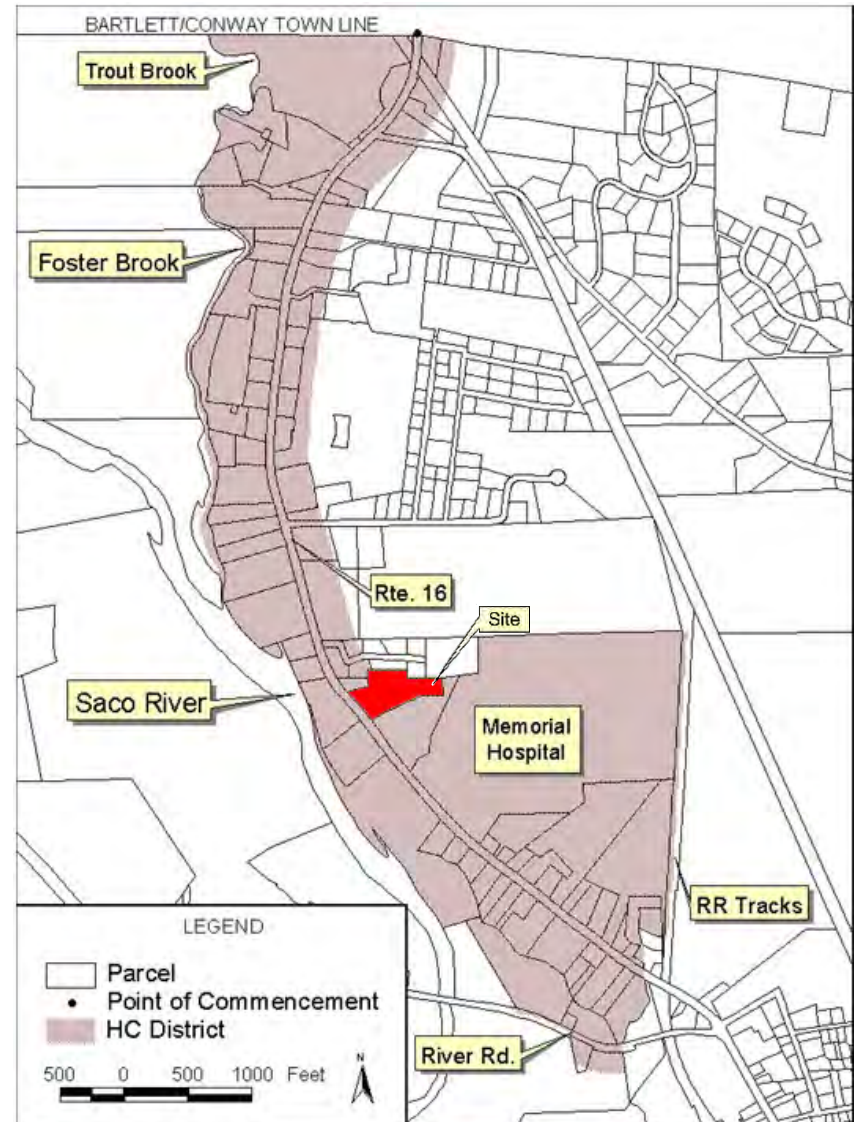


Fig. 71

147.13.8.2 LOT SIZE AND DENSITY.

147.13.8.2.5.2 In order to help provide year round rental housing, the Zoning Board of Adjustment may grant a special exception for one accessory apartment as an accessory use to an owner-occupied single family dwelling, on any size lot subject to the following conditions:

147.13.8.2.5.2.1 The subject property is serviced by precinct water and sewer or that the New Hampshire Department of Environmental Services has issued a permit for construction for sewage or waste disposal system.

147.13.8.2.5.2.2 The accessory apartment is designed to ensure architectural compatibility with the neighborhood.

147.13.8.2.5.2.3 Sufficient parking is located on site.

147.13.8.2.5.2.4 An Accessory Apartment Application is submitted for the ZBA review.

147.13.8.2.5.3 The Zoning Board of Adjustment may grant a special exception for up to twelve dwelling units per acre, in the village commercial and highway commercial districts under the following conditions:

147.13.8.2.5.3.1 That each structure must contain at least three dwelling units.

147.13.8.2.5.3.2 Not less than 25% of all dwelling units shall be designated as full time rental apartments. At the time of Planning Board approval, the units designated as full time rental apartments must be shown on the plan with a condition that they are leased for twenty years from the date of Planning Board approval by the developer and a deed restriction shall be recorded in the Registry of Deeds as evidence of the same.

147.13.8.2.5.3.3 All lots must be serviced by municipal water and sewerage.

147.13.8.2.5.3.4 Rental/Deed restricted units shall be a maximum of 1,000 square feet and a minimum of 300 square feet.

147.13.8.2.5.3.5 Architectural design plans must be submitted to the Zoning Board of Adjustment at the time of application to ensure compliance with the zoning regulations.

147.13.8.3 FRONTAGE. All lots must front on a state or town highway with a Class I, II, III, IV or V classification, a private road constructed to town standards as required by the Planning Board or a Class VI road proposed to be improved as stipulated by the Planning Board. To qualify as frontage the lot must have access rights to the subject highway or road. The minimum distance for frontage on a road shall be:

147.13.8.3.1 One hundred fifty (150) feet.

147.13.8.3.2 One hundred (100) feet for lots which front entirely on cul-de-sacs, which meet the design requirements set forth in §131-Article X, Detail #4, and

approved by the Planning Board.

147.13.8.4 SETBACKS. The minimum front setback shall be 25 feet from a platted right of way and the minimum side or back setback shall be 10 feet.

147.13.8.5 STRUCTURE AND BUILDING HEIGHT. Structure height is restricted to achieve several purposes. The town is economically dependent upon tourism and attracts visitors with its rural character and mountainous setting. Maintaining the traditional scale and style of structures aids in preserving the character of the town. Peaked roofs are encouraged because it is the traditional roof style here. (Care has been taken to prepare language, which does not unduly encourage the use of flat-roof buildings). The height restriction keeps structures and buildings below tree-top level, which is typically from sixty (60) to one hundred (100) feet for mature maple, beech, birch and pine trees. Structure height below treetop level helps maintain the rural atmosphere and preserve the view sheds throughout town. In addition, the height limit minimizes difficulty in providing fire protection. The following shall apply throughout town:

147.13.8.5.1 Structure height shall not exceed fifty-five (55) feet for any structure.

147.13.8.5.2 Building height shall not exceed forty-five (45) feet.

CODE ANALYSIS

The program for the mixed income housing complex falls under the residential occupancy group R-2.

“Group R-2 occupants are permanent, sleeping in more than two dwelling units for more than 30 days. These include apartments, dormitories and long-term residential boarding houses.” (Ching 28)

The following excerpts have been taken from the 2006 International Building Code and specifically pertain to this occupancy group.

General Building Heights and Areas (Section 503)

Table 503 Allowable Height and Building Areas

	Type I		Type II		Type III		Type IV		Type V	
	A	B	A	B	A	B	A	B	A	B
Stories	UL	11	4	4	4	4	4	3	3	2
Area/Floor	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	12,000	7,000

Values are in square feet

UL = Unlimited

A = Fire Rated

B = Not Fire Rated

Fire Walls (Section 705)

705.4 Fire-Resistance Rating

Fire-Resistance Rating (hours): 3*

*2 hours for buildings of Type II or V construction

705.5 Horizontal Continuity

Fire walls shall be continuous from exterior wall to exterior wall and shall extend at least 18 inches beyond the exterior surface of exterior walls.

Exceptions:

1. Fire walls shall be permitted to terminate at the interior surface or combustible exterior sheathing or siding provided the exterior wall has a fire-resistance rating of at least 1 hour for a horizontal distance of at least 4 feet on both sides of the fire wall. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than $\frac{3}{4}$ hour.
2. Fire walls shall be permitted to terminate at the interior surface of noncombustible exterior sheathing, exterior siding or other noncombustible exterior finishes provided the sheathing, siding, or other exterior noncombustible finish extends a horizontal distance of at least 4 feet on both sides of the fire wall.

Means of Egress (Section 1004)

1004.1.1 Maximum Floor Area Allowance Per Occupant

200 gross square feet is the maximum floor area allowed per occupant in residential spaces.

1004.6 Mezzanine Levels

The occupant load of a mezzanine level with egress onto a room or area below shall be added to that room or area's occupant load, and the capacity of the exits shall be designed for the total occupant load thus established.

Egress Width (Section 1005)

Table 1005.1

	Without Sprinkler System		With Sprinkler System	
	Stairways	Other Egress Components	Stairways	Other Egress Components
Width per Occupant (in)	0.3	0.2	0.2	0.15

Exit and Exit Access Doorways (Section 1015)

1015.1 Spaces with One Means of Egress

Maximum occupant load per space: 10

Exit Access Travel Distance (Section 1016)

1016.1 Exit Access Travel Distance

Without Sprinkler System: 200 feet

With Sprinkler System: 250 feet

Number of Exits and Continuity (Section 1019)

Table 1019.1

Occupant Load (persons)	Minimum Number of Exits (per story)
1-500	2
501-1,000	3
More than 1,000	4

PRECEDENT ANALYSIS

The following case studies exemplify quality designs of attached housing that represent characteristics that correspond to the architectural intentions of my own project. Each one has been recognized for its success in executing the design of homes sharing common walls. The following analyses show successful solutions to many problems often associated with attached housing and, more specifically, affordable housing. After having researched and analyzed these projects, I have had the opportunity to apply similar design strategies and have a better understanding of how to solve many of the same problems myself. These examples have served as references in the development of my own program as well.

Stoney Brook Apartments Livermore, CA



Fig. 72

Arlington Farm Davis, CA



Fig. 73

Parkview Commons San Francisco, CA



Fig. 74

Tuscany Villas Davis, CA



Fig. 75

Yorkshire Terrace Los Angeles, CA



Fig. 76

Stoney Brook Apartments



Fig. 77

Location: Livermore, CA
Architect: Chris Lamen and Associates
Completion Date: 1992

Resident Profile

38% very low-income families
62% low-income families

Program:

Apartments	# Units	SF
2 BR	36	938-1,100
3 BR	34	1,170-1,274
Total	70	

Community/Laundry	520 SF
Courtyard/Play Area	10,000 SF
Parking	131 spaces

Total Site Area 5 acres

Features

10 detached buildings clustered around 5 courtyards

Variety of geometry and massing that gives units individual identities

Interactive community spaces

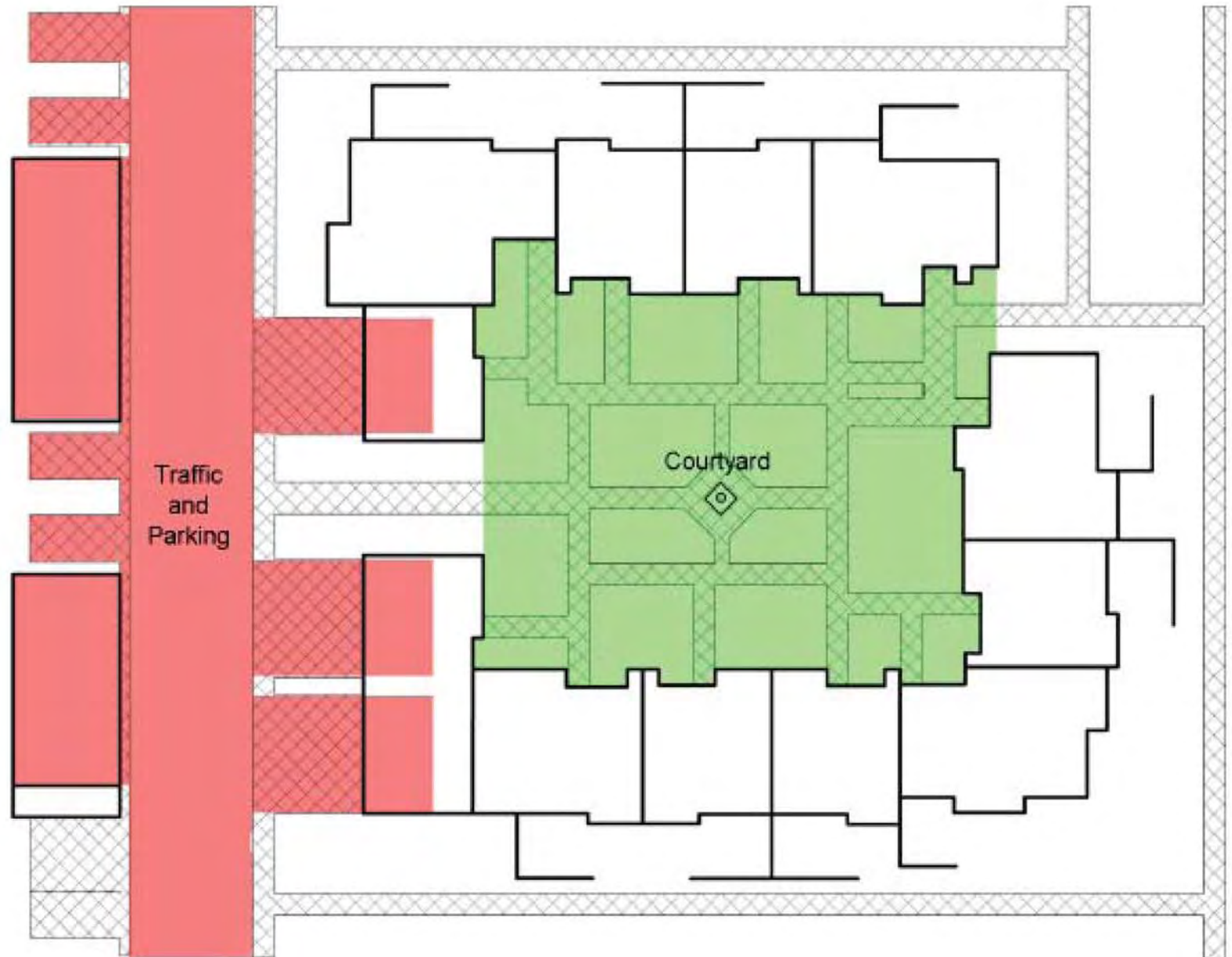


Fig. 78

The courtyard is shared by all the units surrounding it. It is protected by the building clusters from the road and parking areas to create a safe outdoor environment for the community. This is one of identical clusters and courtyards in the complex.

Separation of Courtyard and Cars



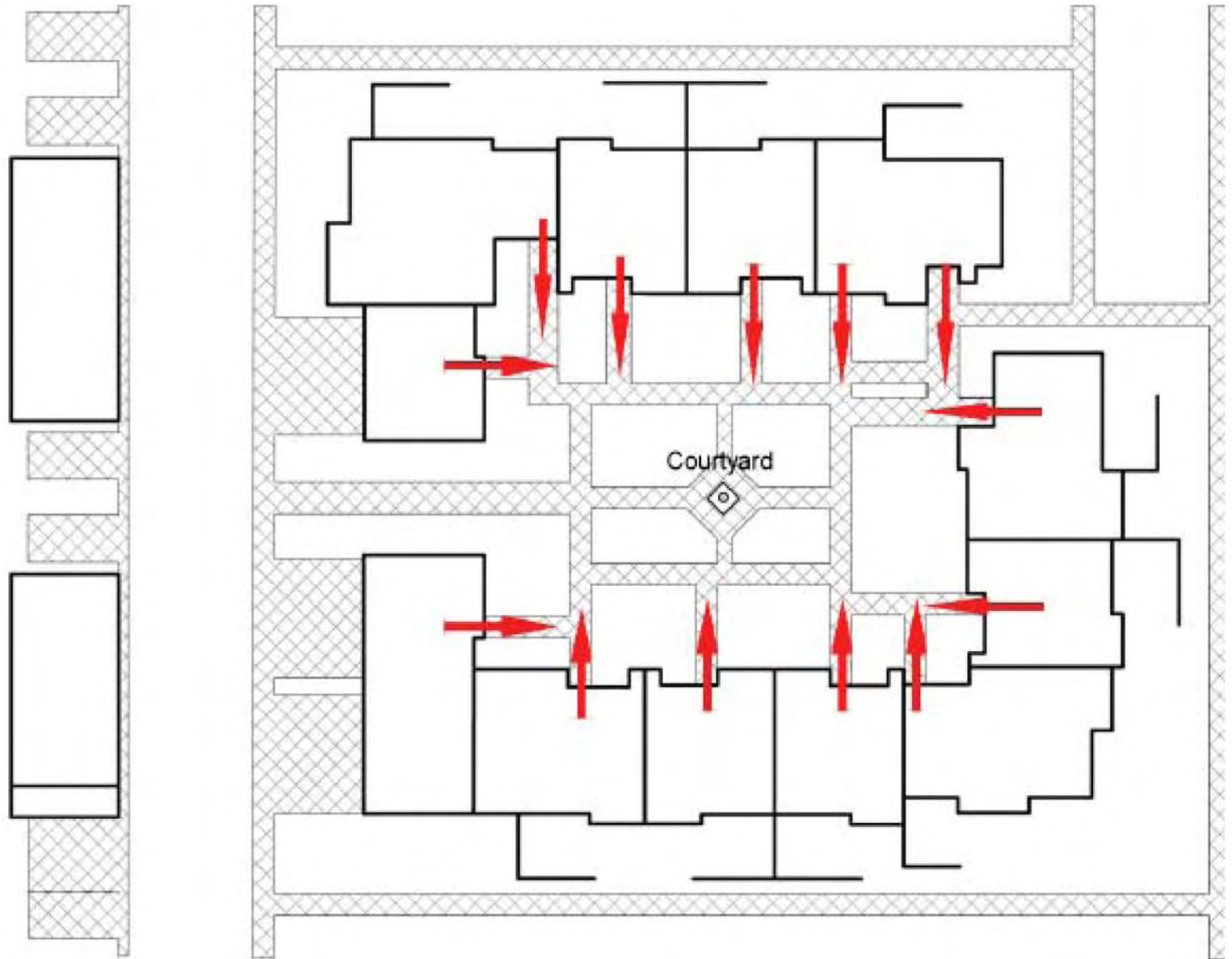


Fig. 80

Each unit in the cluster enclosing the courtyard has direct access to it.

Connection of Each Unit to Courtyard





Fig. 81

Varying volumes, openings, materials, and heights emphasize the distinction between individual dwelling units.



Fig. 82



Fig. 83

The courtyard and children's play area are easy visible from the apartments promoting a safe community environment.



Fig. 84

Arlington Farm

Location: Davis, CA

Architect: Sam Davis Architects

Size: 138 Units on 9.4 Acres



Fig. 85

Arlington Farm is a market-rate housing development with two and three story apartments, 20% being affordable.

The site chosen for this housing development establishes a community that was integrated into an already residential area. It is located in the middle of three existing neighborhoods which prevents the development from being out of place in the community.

To the North of the site are existing single-family homes.

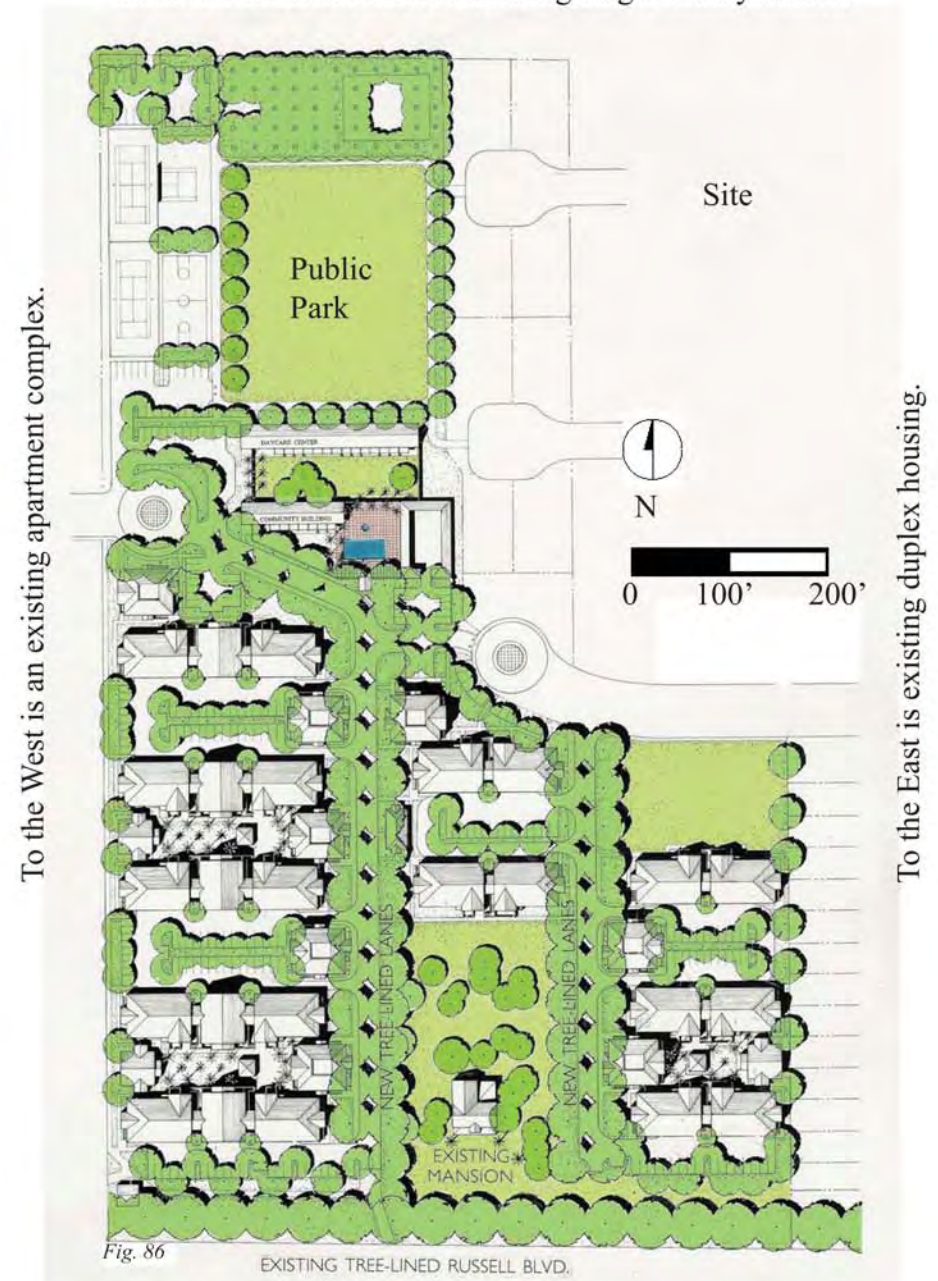
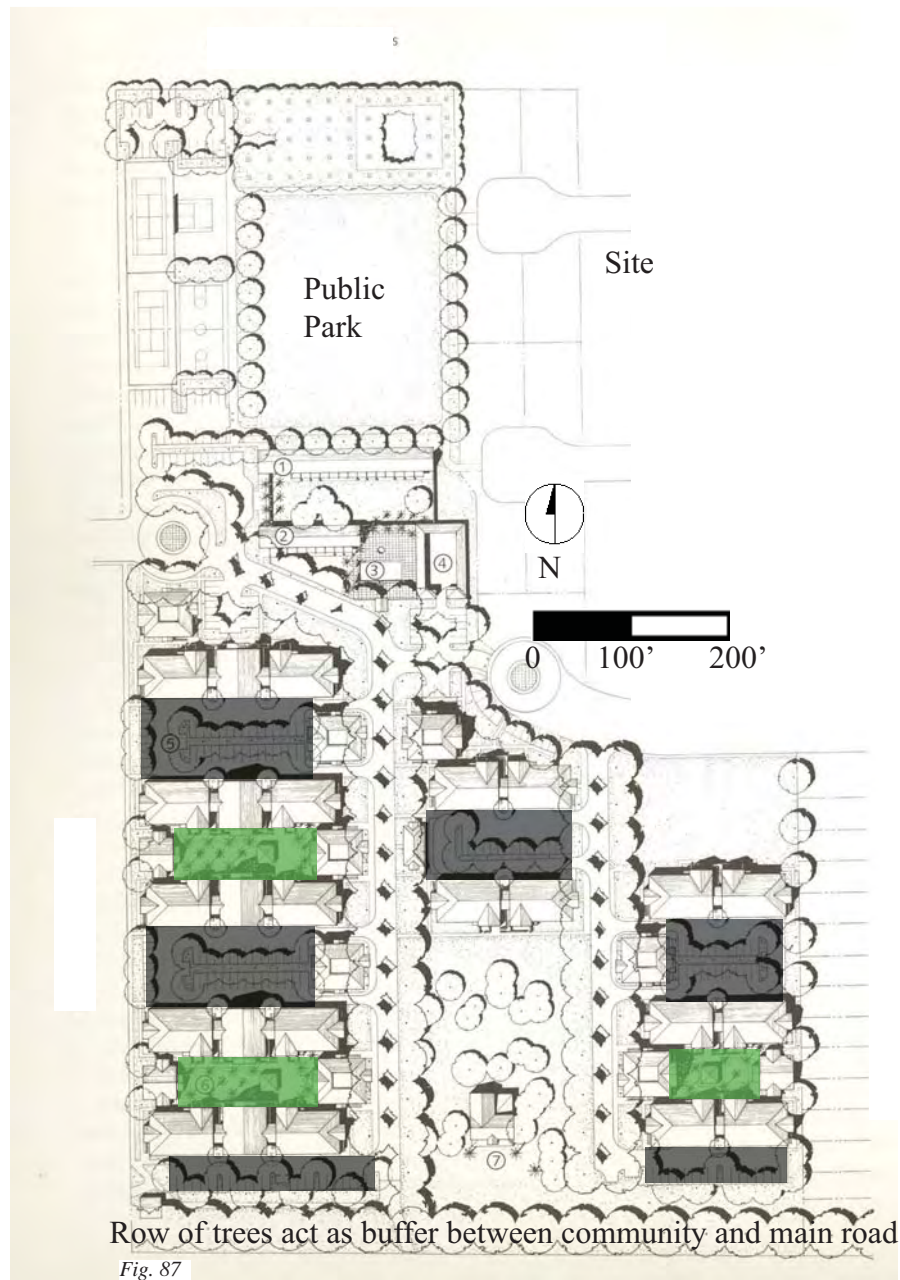


Fig. 86



Clusters of apartments enclose garden courtyards and parking courts. These alternate so that each apartment faces the garden on one side, and has direct access to parking on the other.



Typical Garden Court



Typical Parking Court



Fig. 88

Parkview Commons
San Francisco, CA

- Affordable housing situated on a sloped site
- Shared exterior common spaces located between rows of units



Fig. 89



Fig. 90

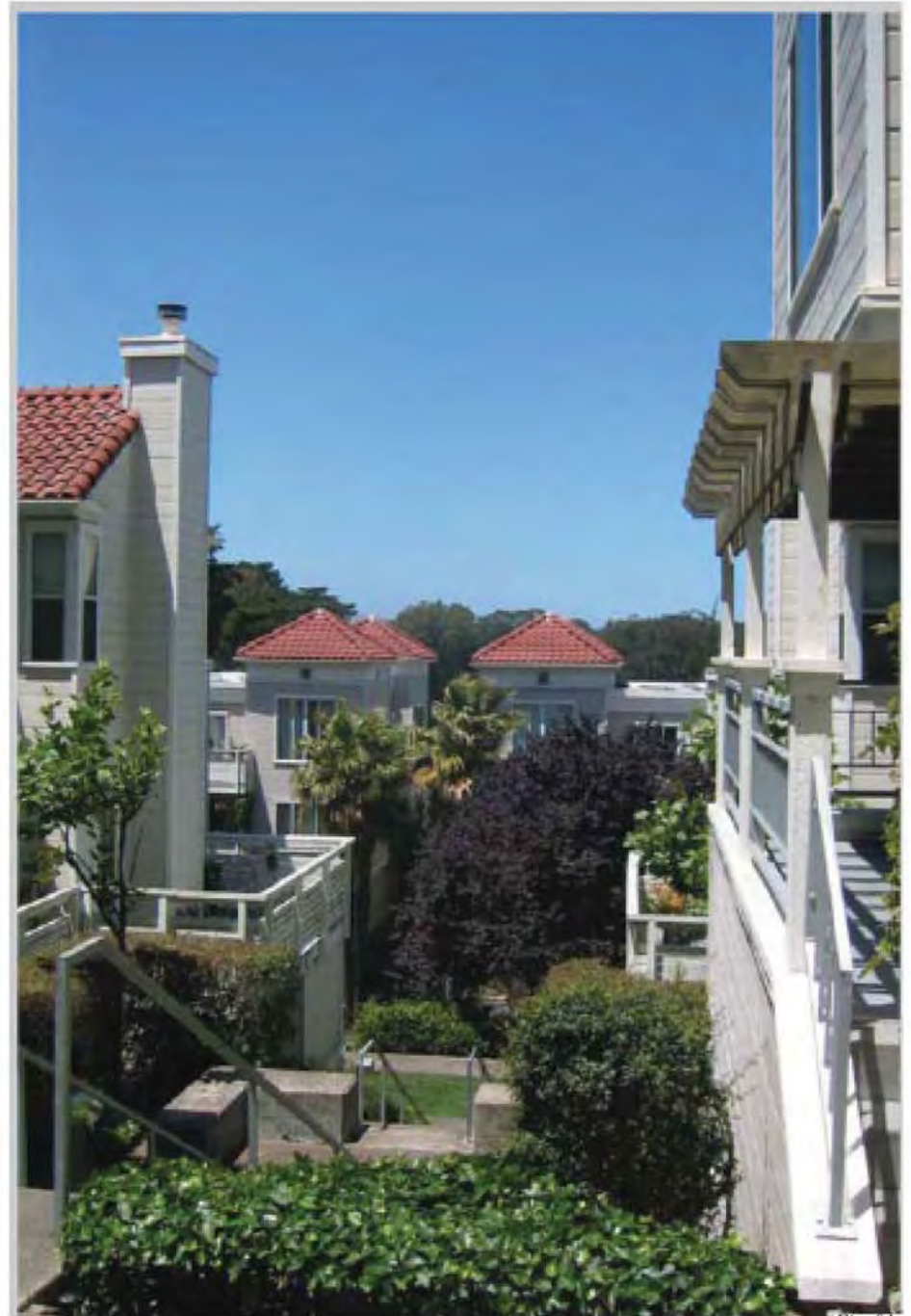


Fig. 91

Tuscany Villas

Location: Davis, CA

Architect: Sam Davis Architects



Fig.92



Fig.93

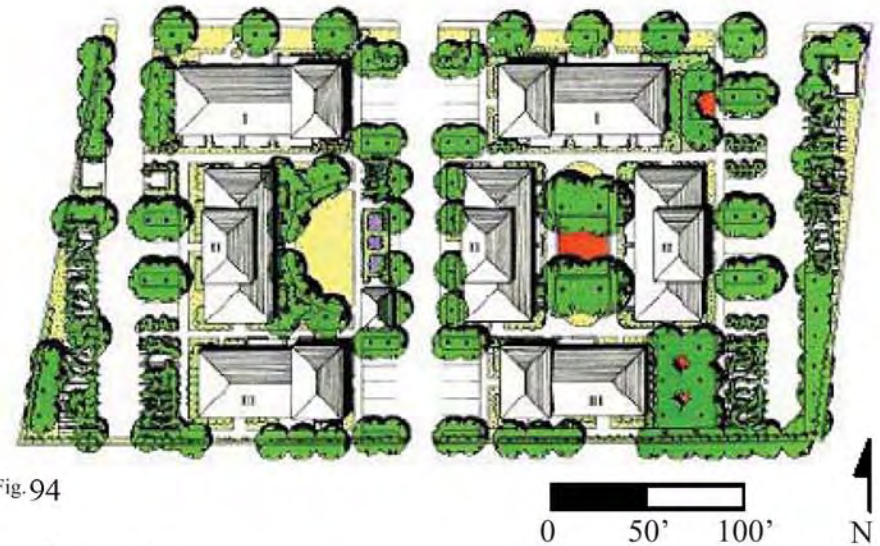


Fig.94

Program:

Apartments	# Units	SF
1 BR	2	850
2 BR	12	915-980
3 BR	22	1,260-1,300
Total	36	

Laundry	300 SF
Courtyard/Play Area	3,200 SF
Parking	69 spaces

Total Site Area 2.2 acres

Resident Profile

Very-low- and low-income families and seniors

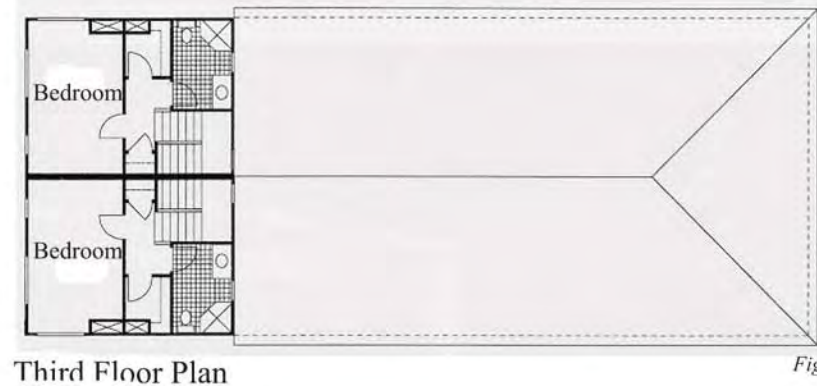
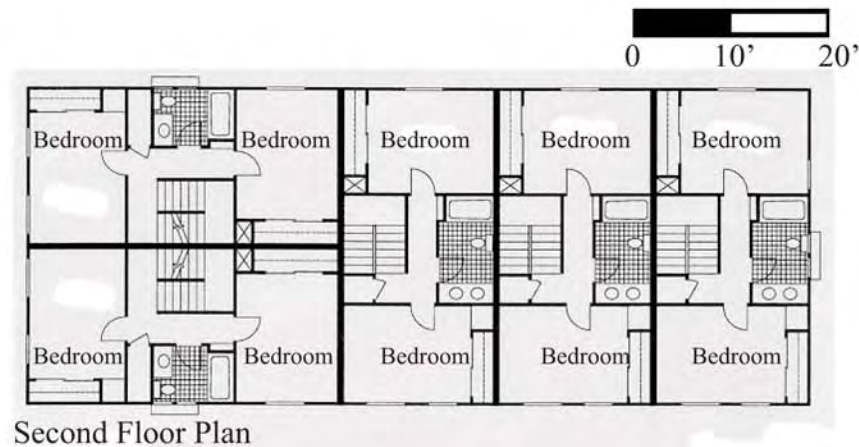
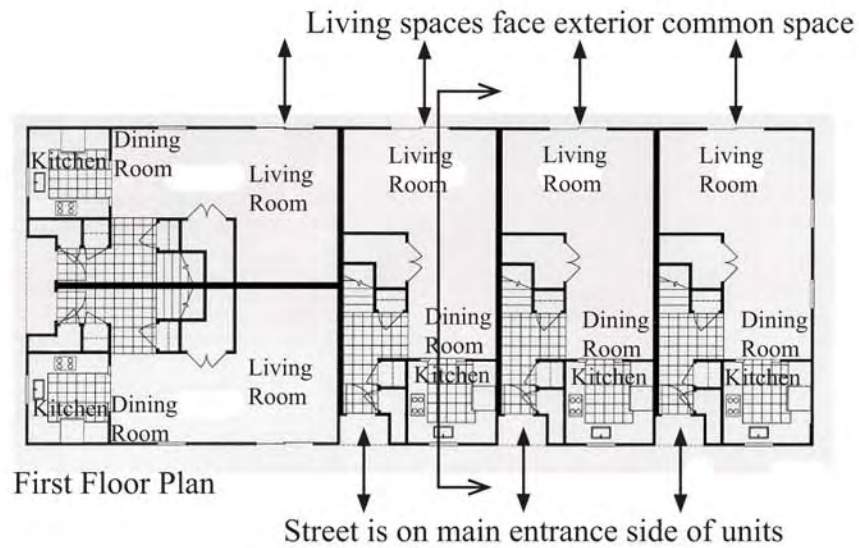
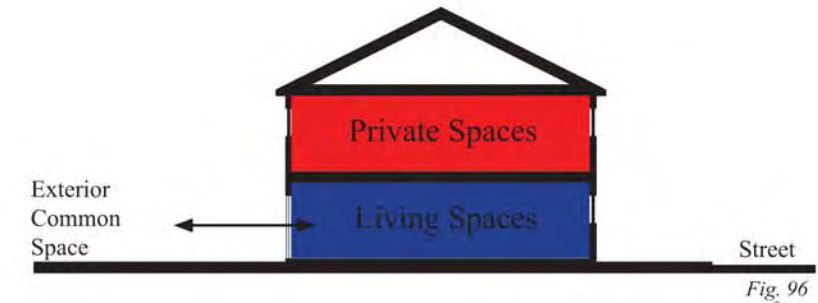
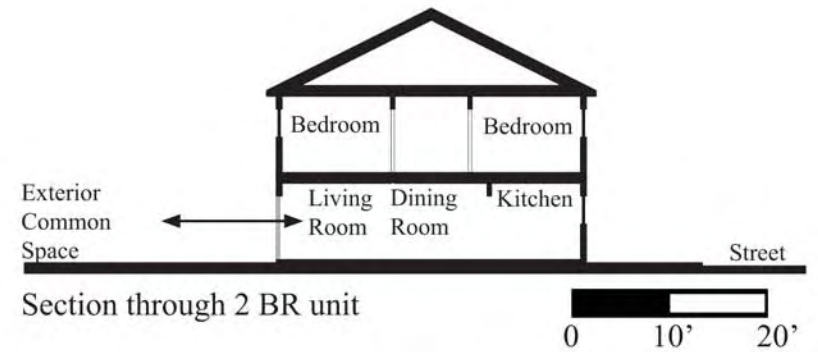


Fig. 95



The sections and plans show the separation of the private spaces from, and integration of the living spaces from the exterior common space.

As shown in the plan, the living room is given direct access and view of the public space, and is separated from the street side with the entrance, kitchen, and dining room acting as a buffer.

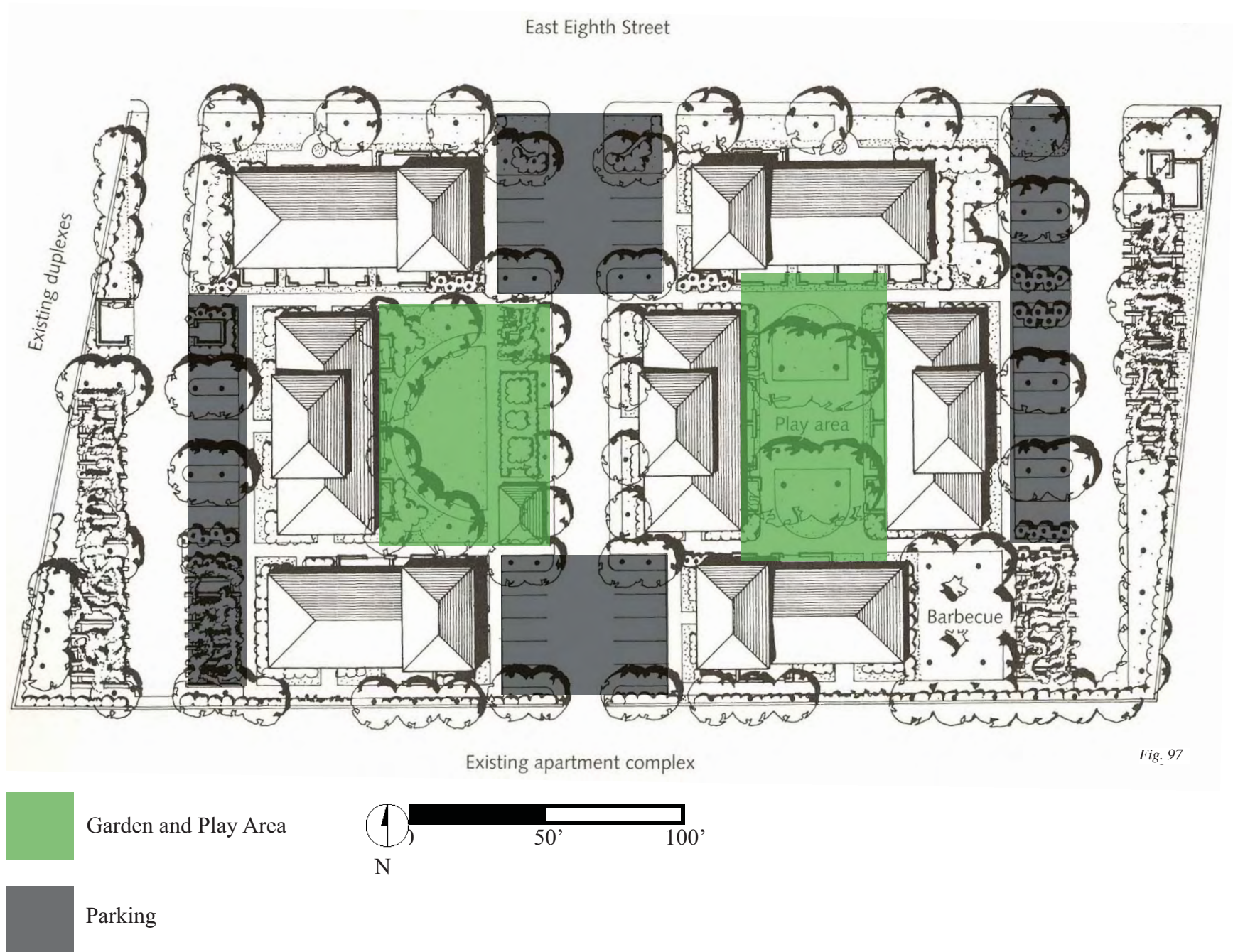


Fig. 97

Yorkshire Terrace

Location: Las Angeles, CA

Architect: John V. Mutlow

Completion Date: 1987

Program:

Apartments	# Units	SF
2 BR	18	1,260-1,300
Total	36	

Laundry	150 SF
Courtyard/Play Area	3,008 SF
Parking	23 spaces

Total Site Area 22,500 SF (0.52 acres)

Resident Profile

Low-income families



Fig. 98



Fig. 99



Fig. 100



0 10' 20'

First Floor Plan

Each unit has its own private patio along with direct access to a shared courtyard. The bedrooms, the most private spaces in the apartments, are separated from the courtyard by the living room, kitchen, and dining room that face it.



Fig. 101

The common space between the units serves the function of pedestrian travel to and from the units. From here the open stairways to the upstairs units are accessed.



Fig. 102



Fig. 103

SITE SCHEME DEVELOPMENT



Fig. 104

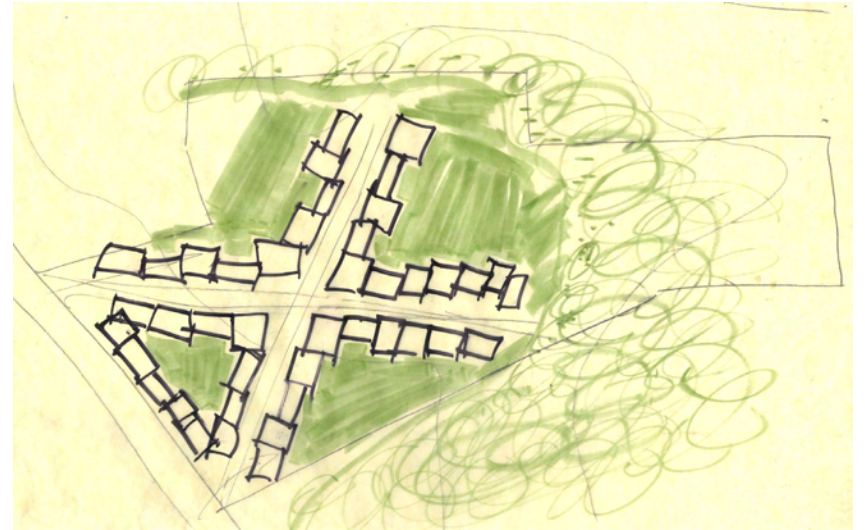


Fig. 105



Fig. 106



Fig. 107

SITE SCHEME DEVELOPMENT



Fig. 108



Fig. 109



Fig. 110

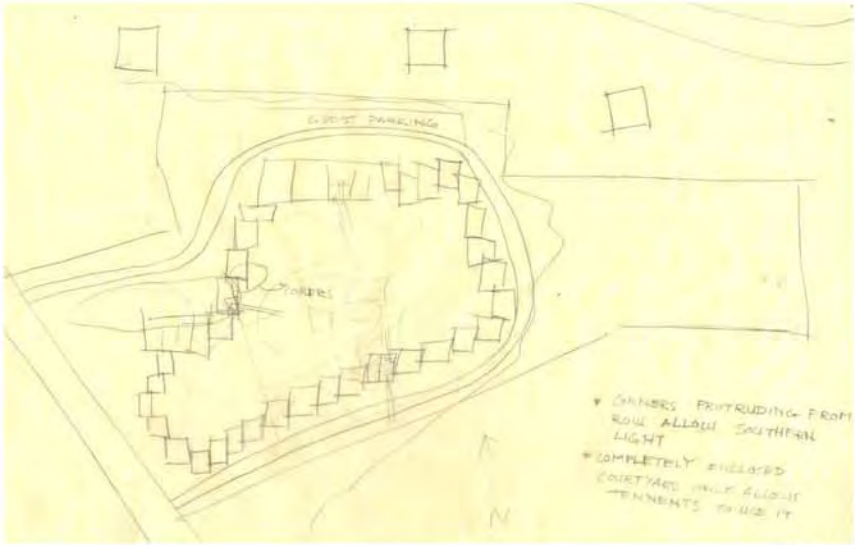


Fig. 111

SITE SCHEME DEVELOPMENT



Fig. 112

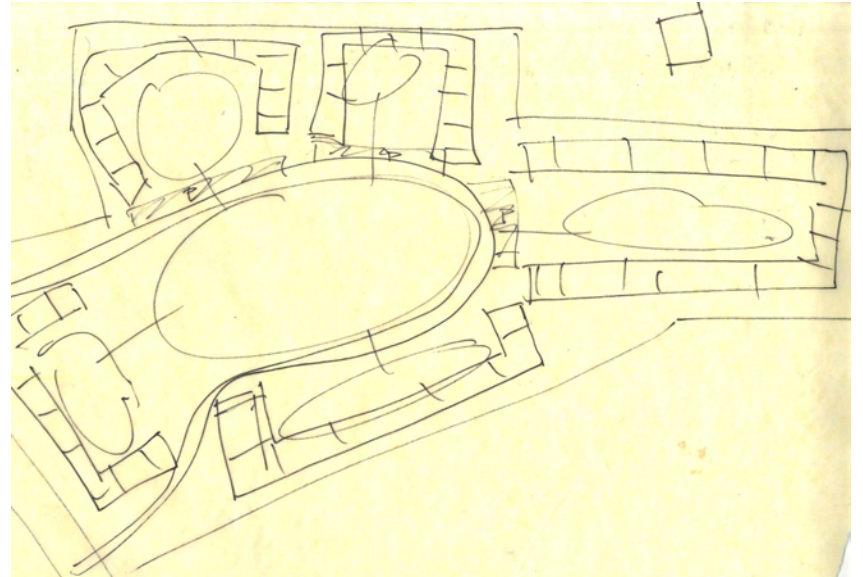


Fig. 113

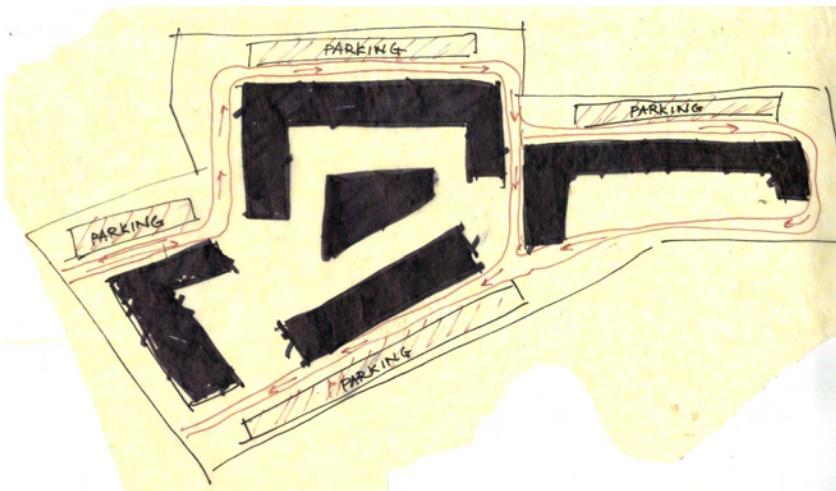


Fig. 114

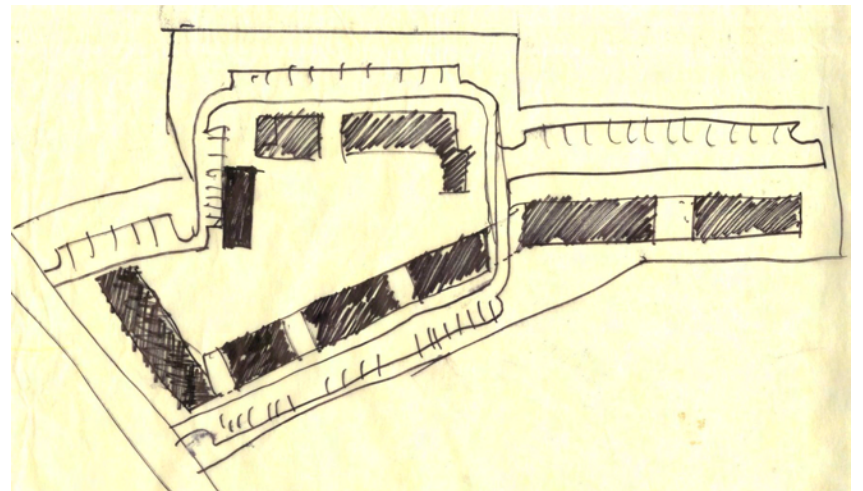
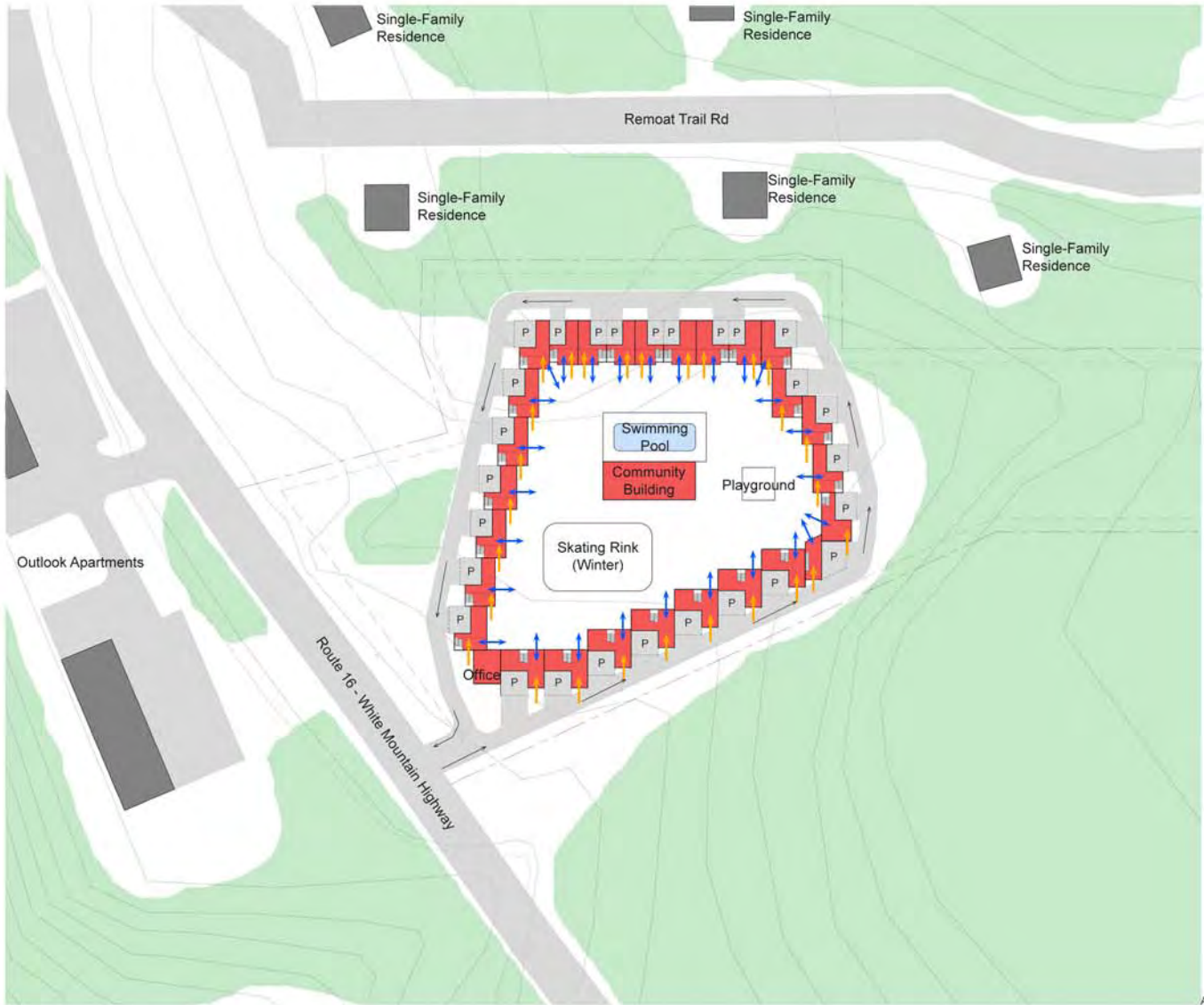


Fig. 115

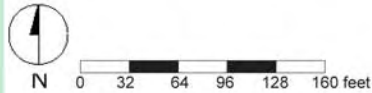
SITE SCHEME REVIEW



Site Scheme 1A
Rte. 16, North Conway, NH

- Sheltered parking spaces underneath overhanging second floor.
- Reduces paved footprint on site
- Economic way to provide protection and shelter to vehicles
- Exterior common spaces completely enclosed by apartments, only allowing residents and their guest to have access.
- Every unit has a living space that receives southern natural lighting as well as having direct access to the common space.

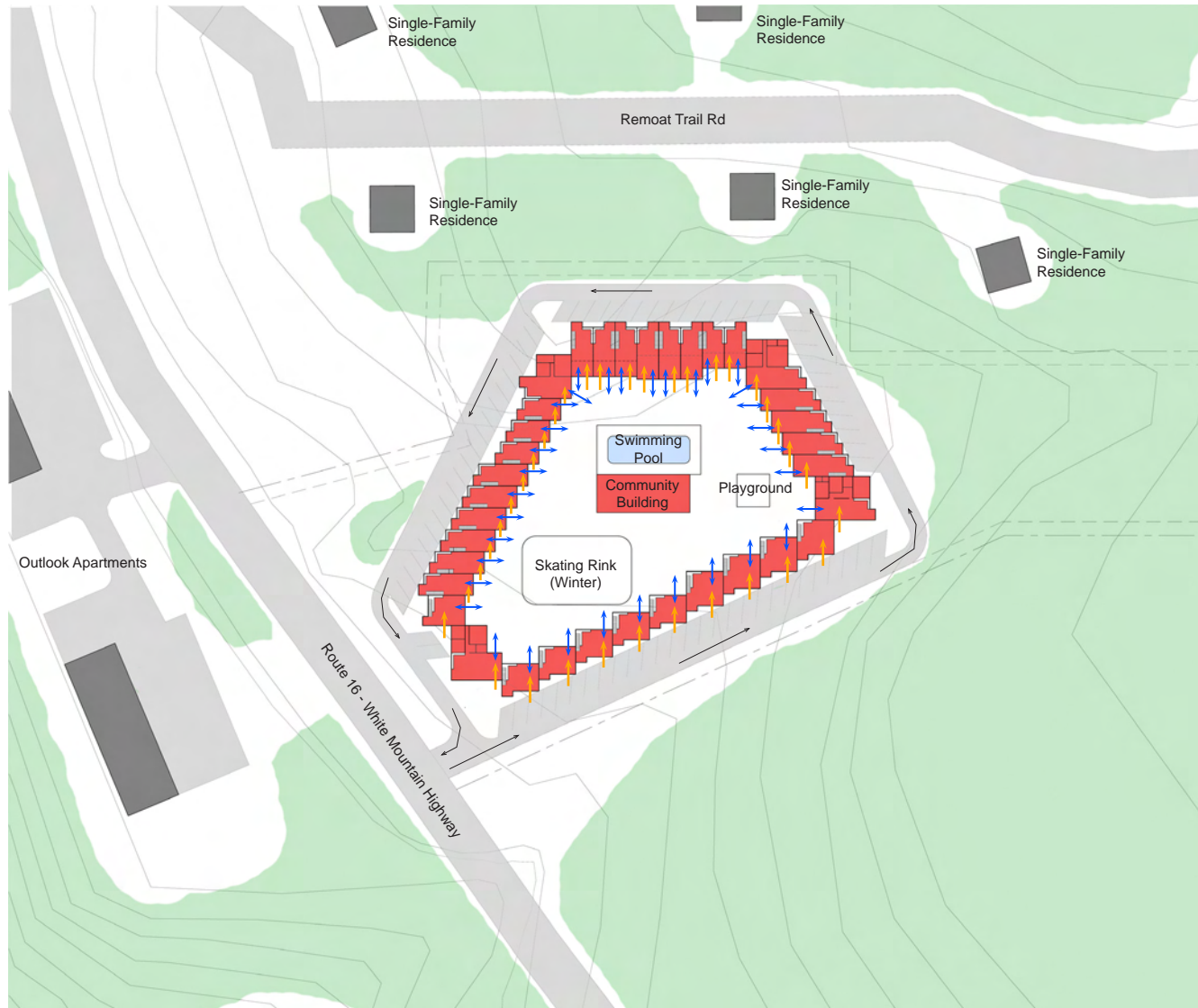
- Southern Light
- Direct Access to Common Space



ARCH 514 February 17, 2009 Christian Lanciaux

Fig. 116

SITE SCHEME REVIEW



Site Scheme 1B

Rte. 16, North Conway, NH

- Exterior common spaces completely enclosed by apartments, only allowing residents and their guest to have access.
- Every unit has a living space that receives southern natural lighting as well as having direct access to the common space.

↑ Southern Light

↓ Direct Access to Common Space

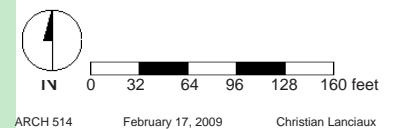


Fig. 117

SITE SCHEME REVIEW



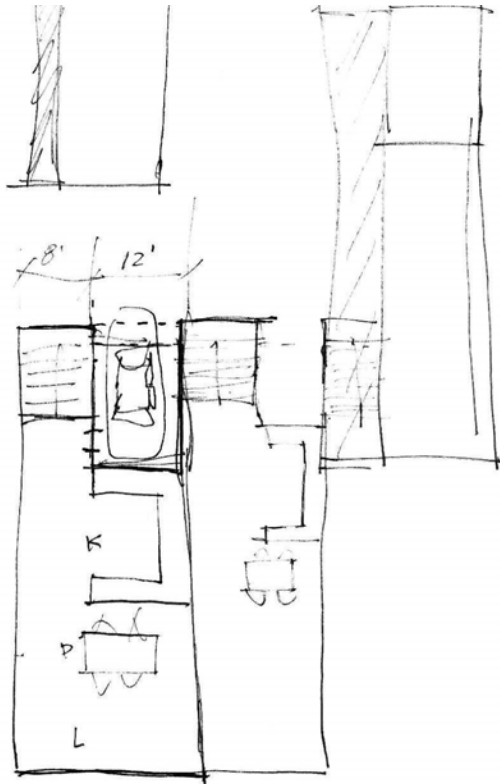
Site Scheme 2

Rte. 16, North Conway, NH

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Fig. 118

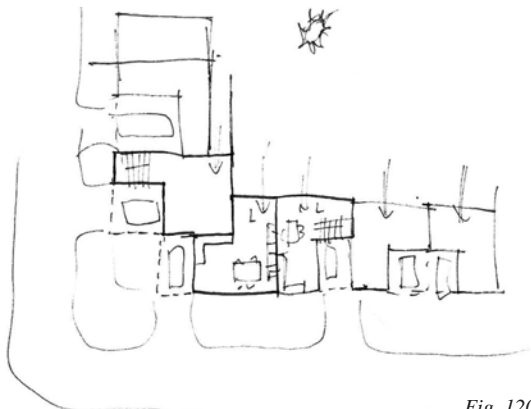
DESIGN DEVELOPMENT

Sketches



First Floor Plan

Fig. 119



First Floor Plan of Corner

Fig. 120

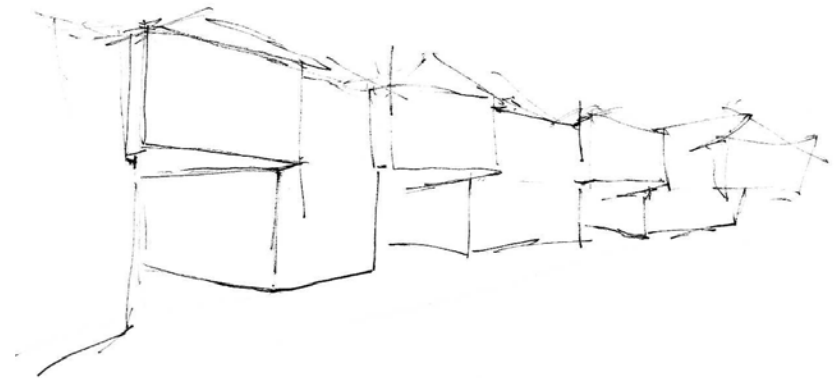
An early objective in the design phase was to provide a sheltered parking space under each unit. These were all sketches done to explore this idea.

However, the space required for these spaces created too many complications with fitting all the units on the site without building too high, so the idea was abandoned.



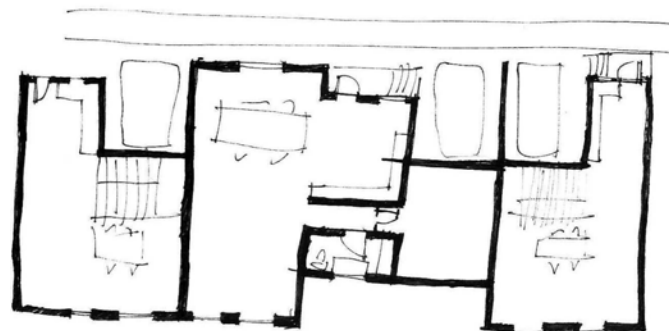
Perspective Sketch

Fig. 121



Perspective Sketch

Fig. 122



First Floor Plan

Fig. 118

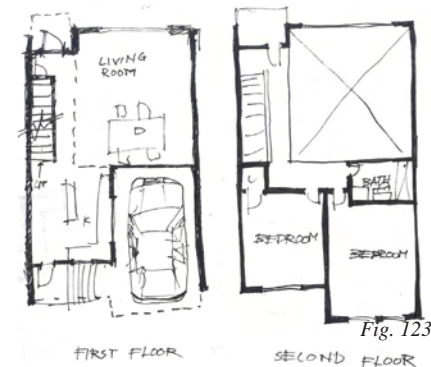


Fig. 123

DESIGN DEVELOPMENT

Schematic Design

Site Scheme 3
(Not presented
until Schematic
Design Review)

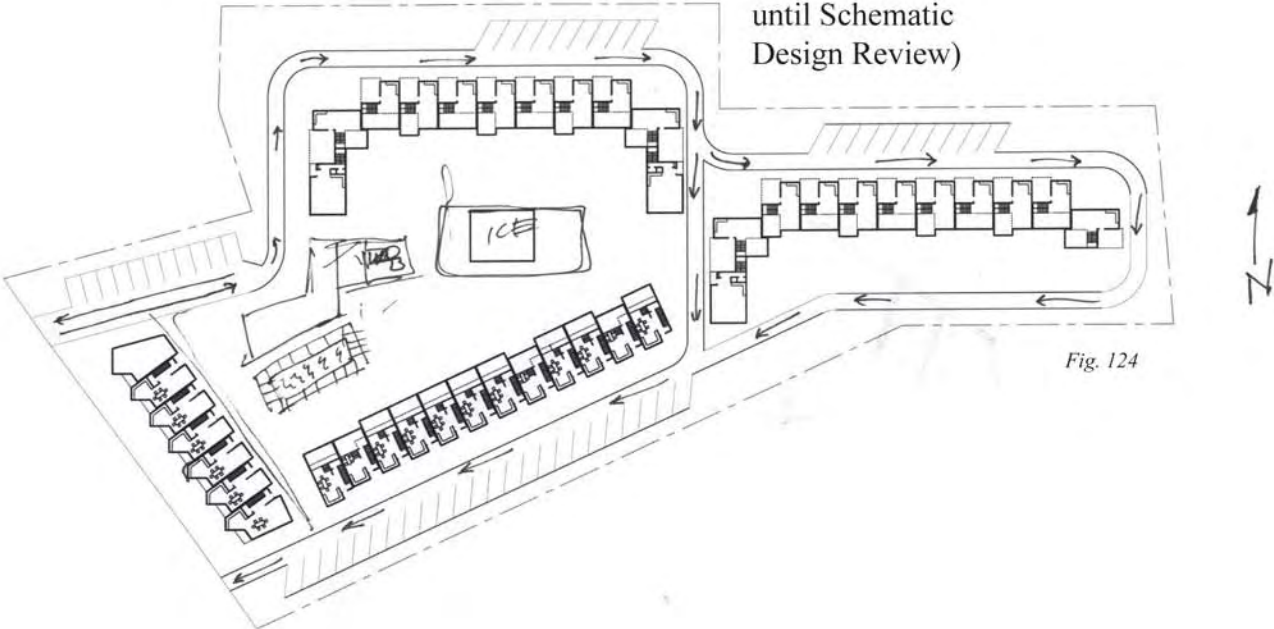


Fig. 124



East Cluster North Elevation

Fig. 125



North Cluster North Elevation

Fig. 126

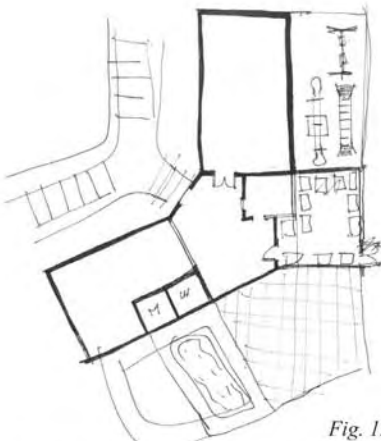


Fig. 127

Community Building Plan Sketch

DESIGN DEVELOPMENT



Perspective Sketch of East Cluster from Common Space

Fig. 128

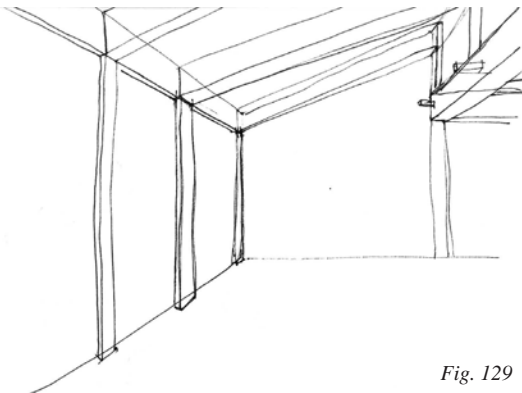
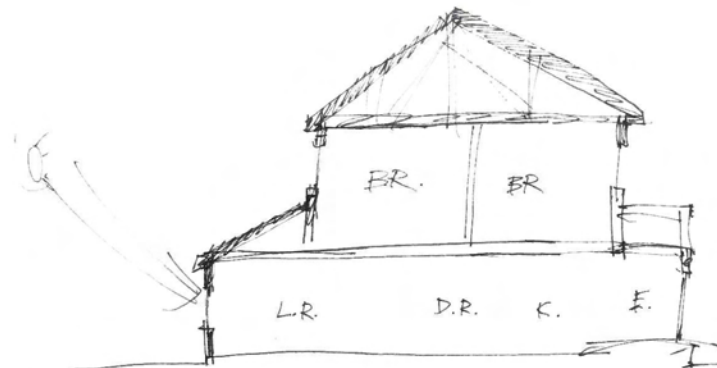


Fig. 129

Interior Perspective Sketch of a Living Room



Section Sketch with Living Room South Facing

Fig. 130

DESIGN DEVELOPMENT

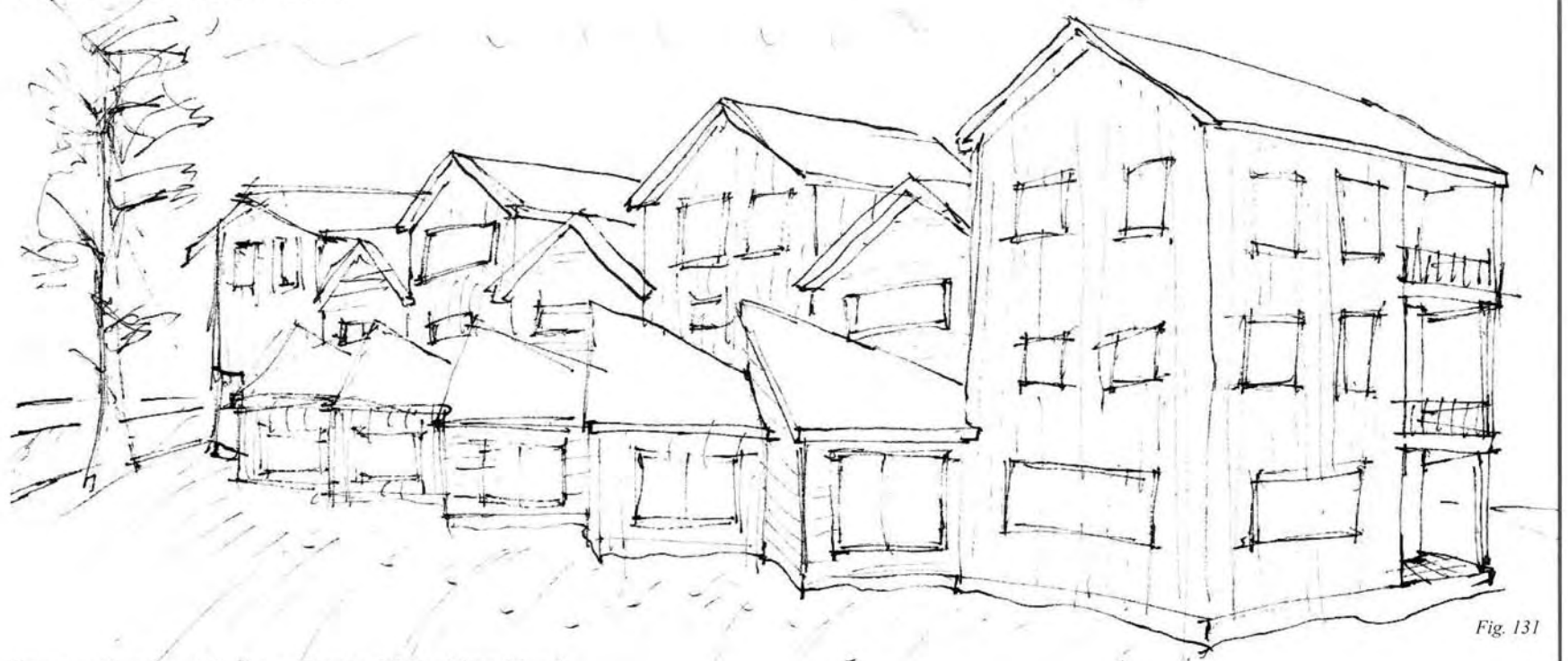


Fig. 131

Perspective Sketch from Route 16 looking North

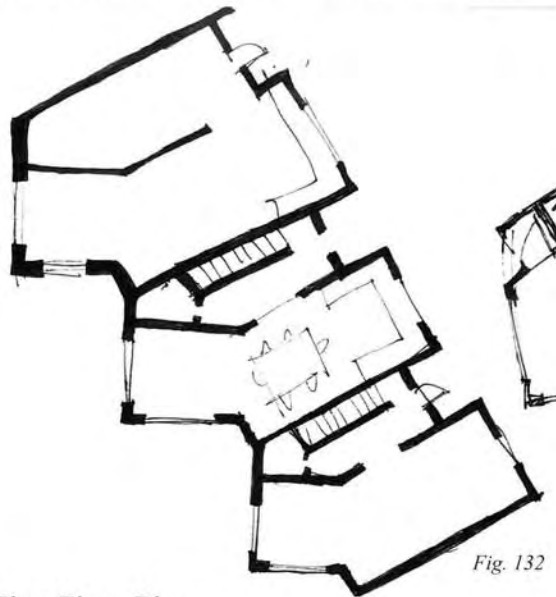


Fig. 132

First Floor Plan

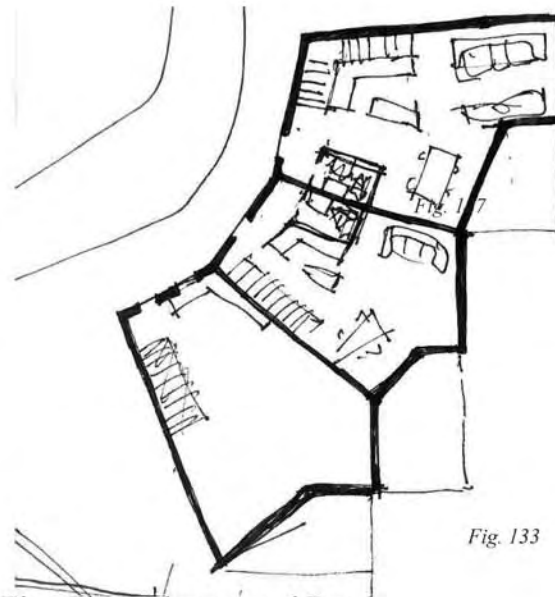


Fig. 133

First Floor Plan around Bend

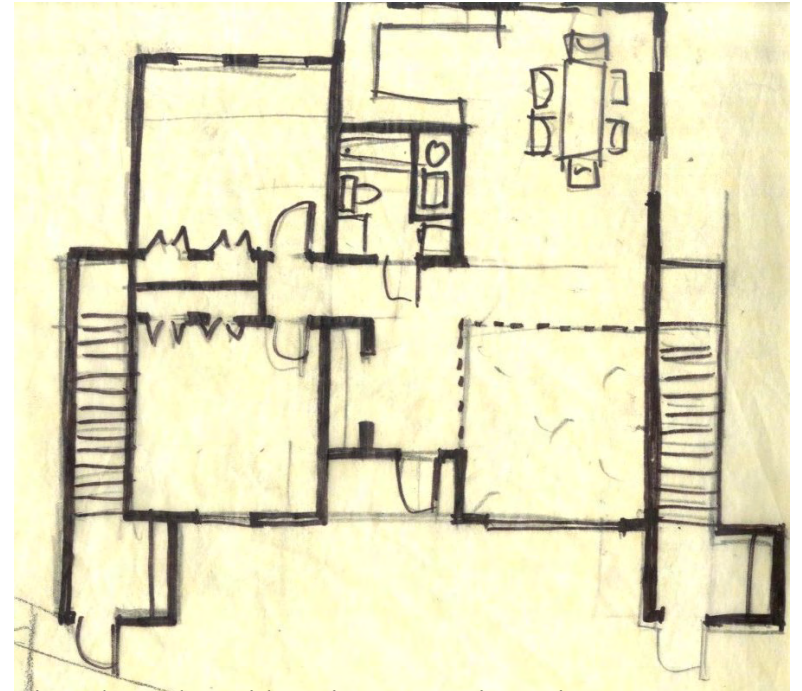
Throughout the entire design process, it was important to have south facing windows in the main living spaces. Here, walls are angled to create this condition.

DESIGN DEVELOPMENT



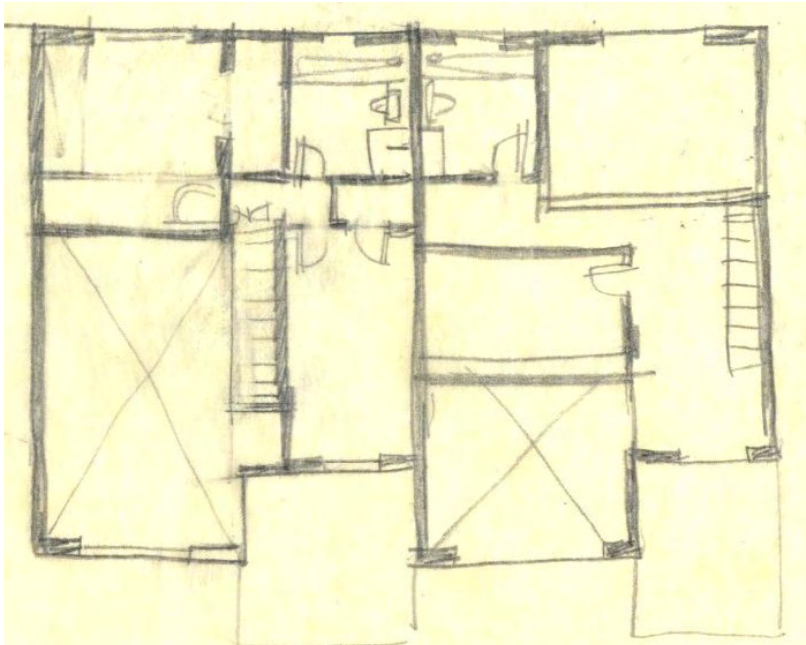
First Floor Plan with Stairs to Upstairs Unit

Fig. 134



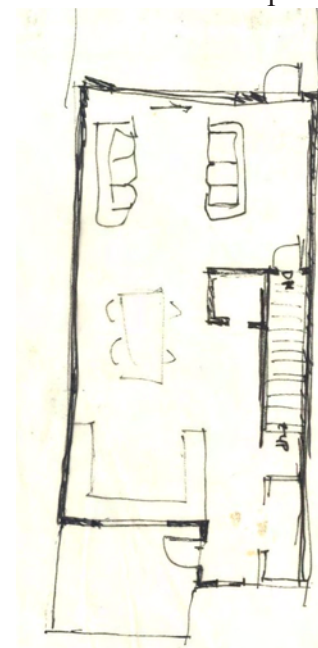
First Floor Plan with Stairs to Upstairs Unit

Fig. 135



Second Floor Plan

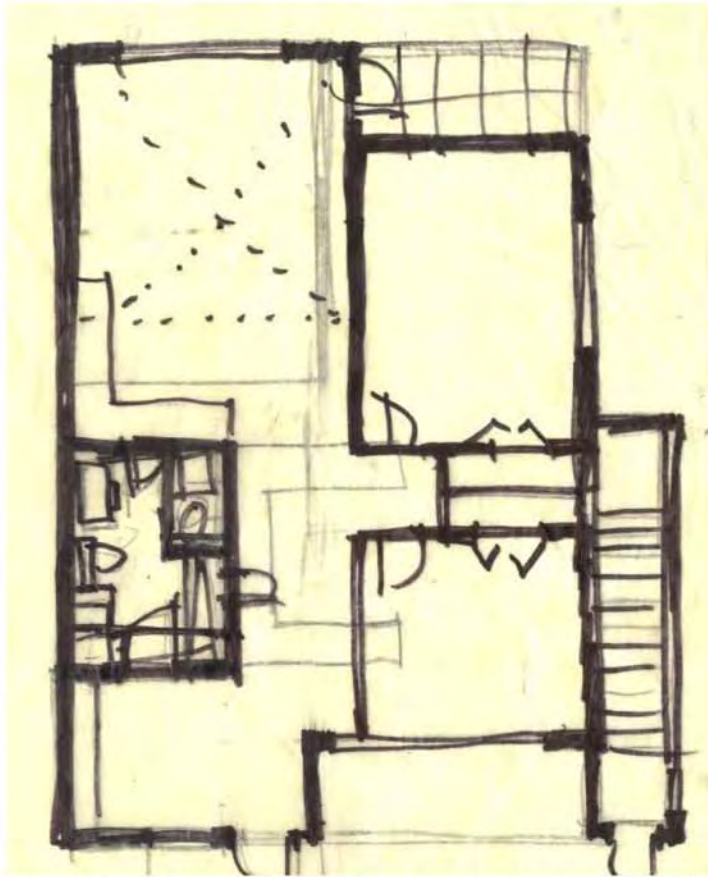
Fig. 136



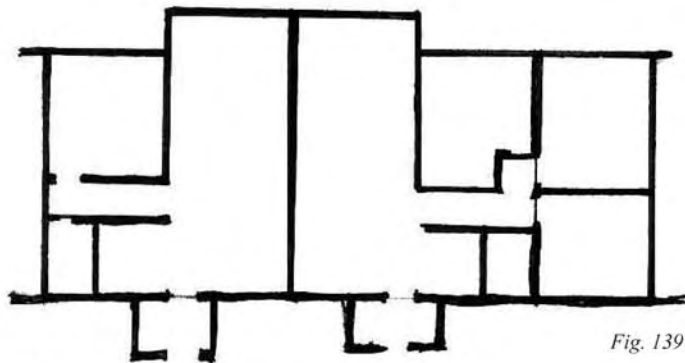
First Floor Plan

Fig. 137

DESIGN DEVELOPMENT

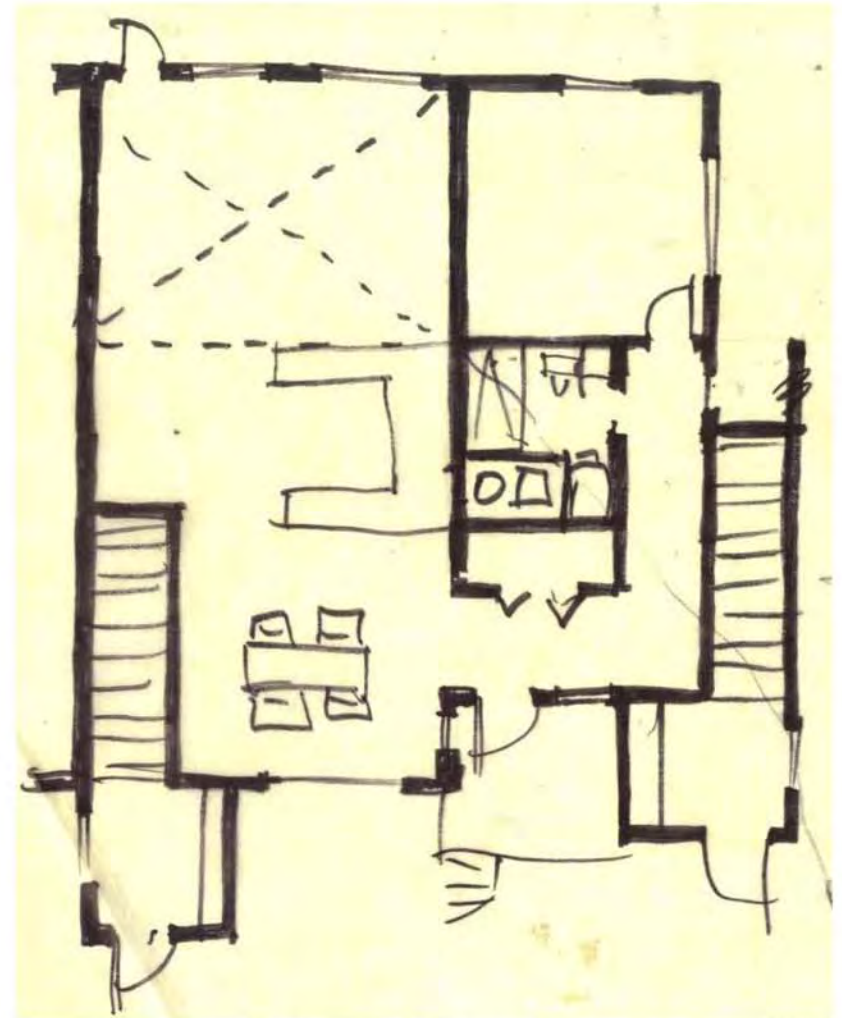


First Floor Plan with Stairs to Upstairs Unit *Fig. 138*



First Floor Plan

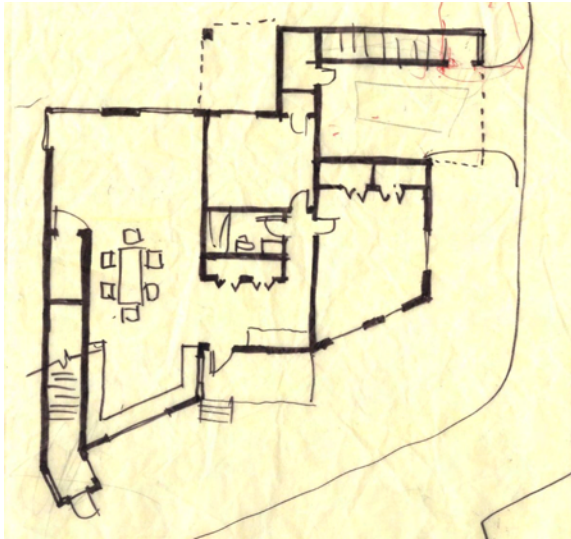
Fig. 139



First Floor Plan with Stairs to Upstairs Unit

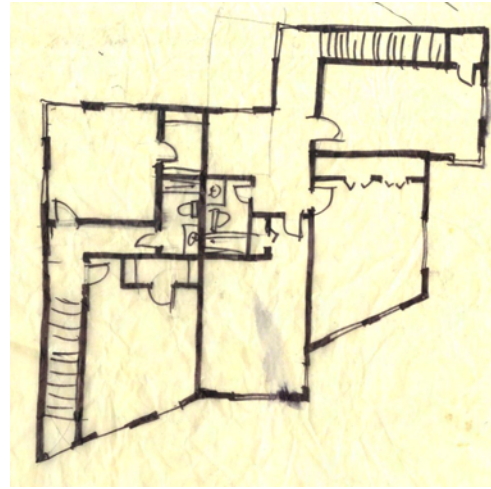
Fig. 140

DESIGN DEVELOPMENT



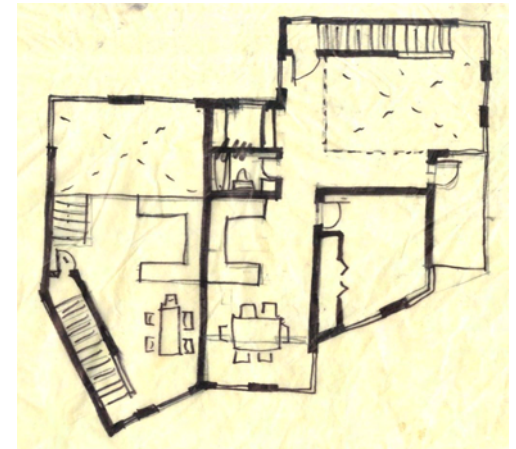
Corner Units First Floor

Fig. 141



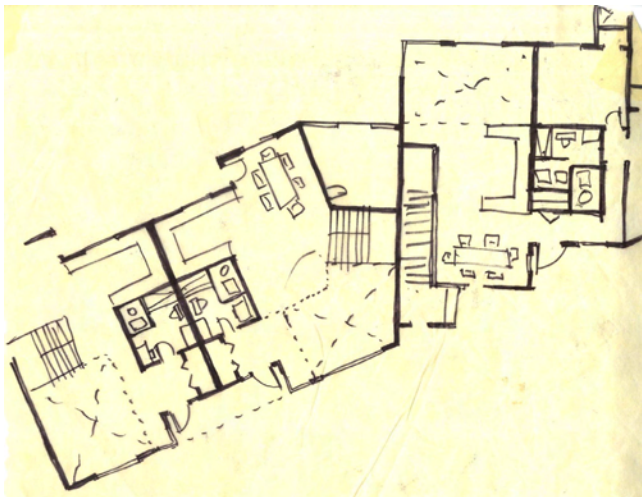
Corner Units Second Floor

Fig. 142



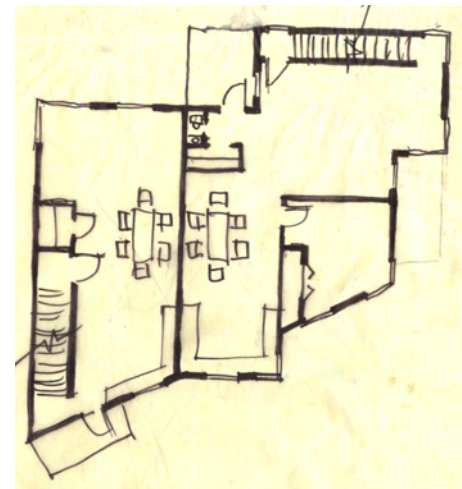
Corner Units Third Floor

Fig. 143



Corner Units First Floor with Adjacent Units

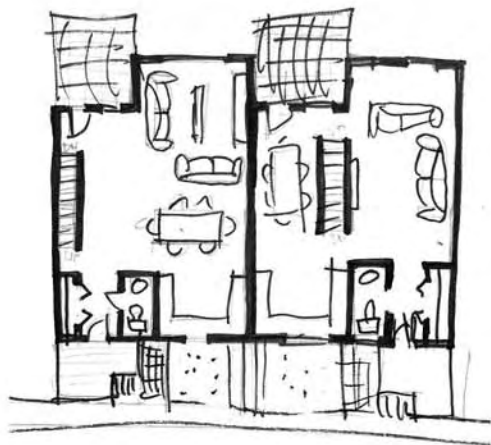
Fig. 144



Corner Units Third Floor 2

Fig. 145

DESIGN DEVELOPMENT

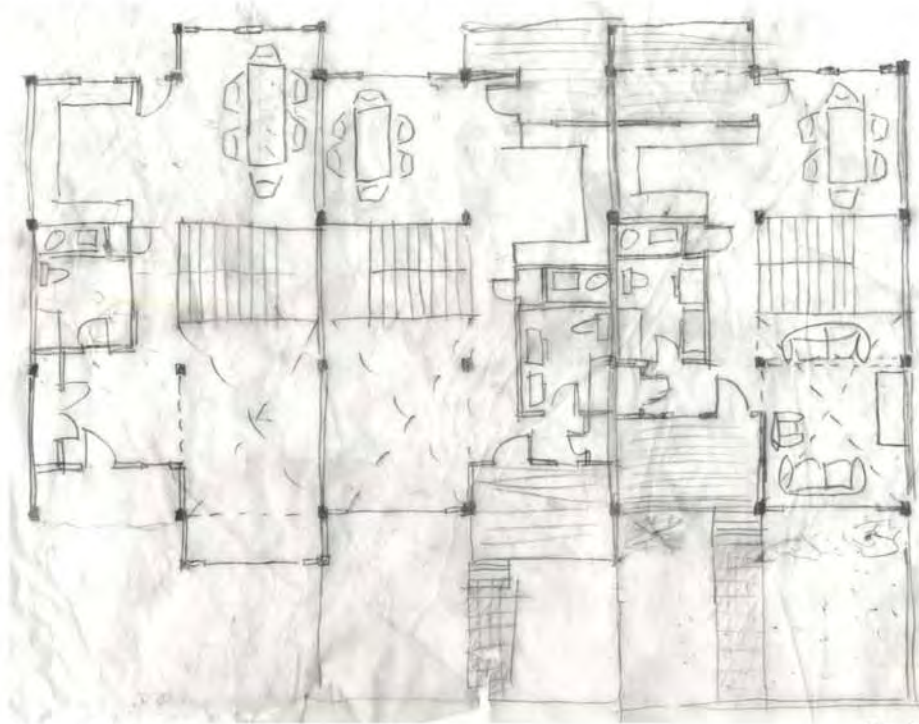


First Floor Plan with Parking *Fig. 146*



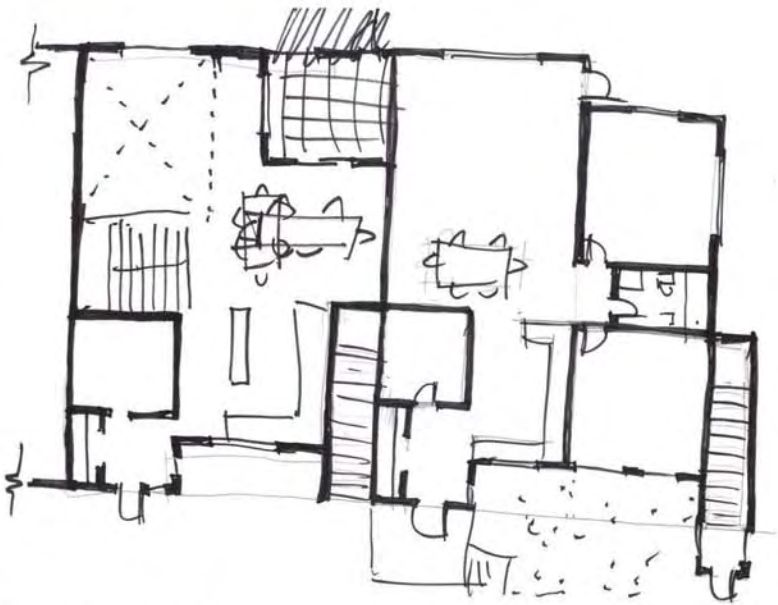
First Floor Plan

Fig. 147



First Floor Plan

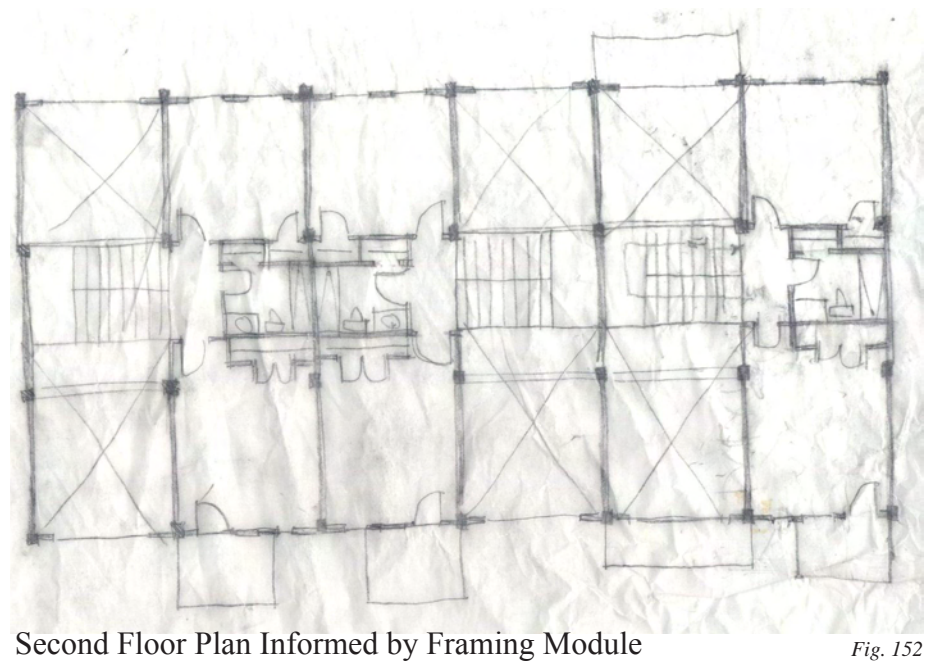
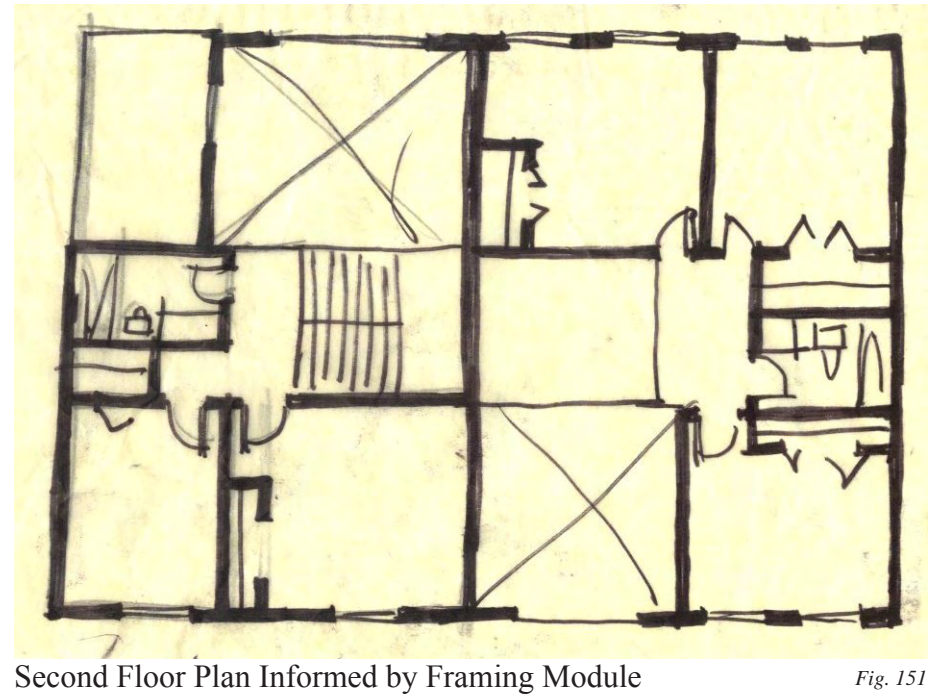
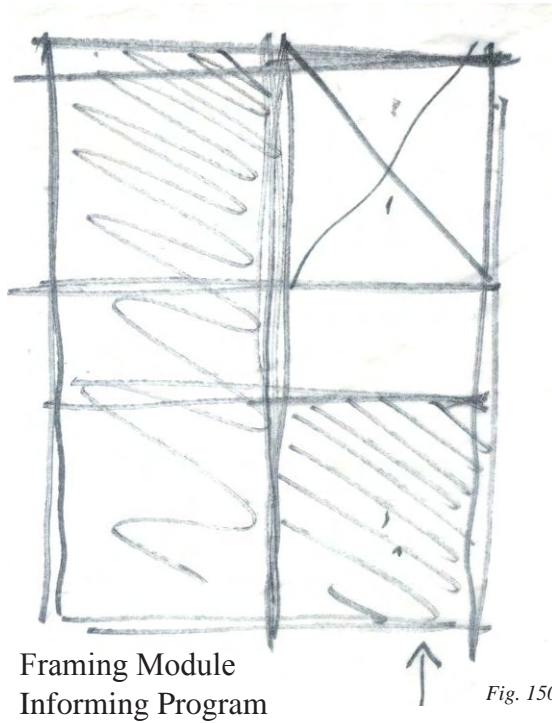
Fig. 148



First Floor Plan

Fig. 149

DESIGN DEVELOPMENT



DESIGN DEVELOPMENT

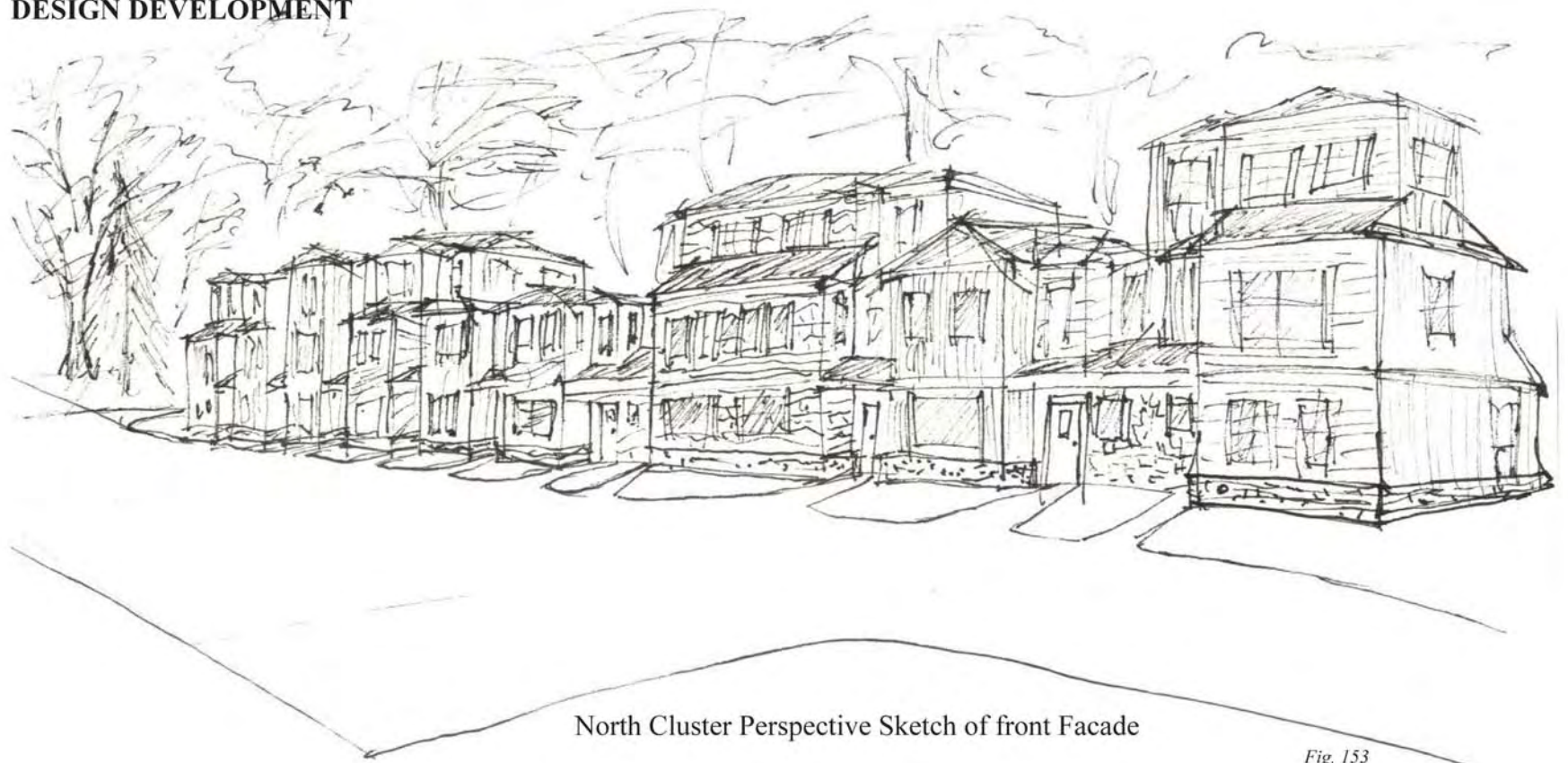


Fig. 153

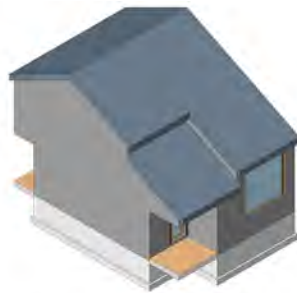


Aerial View of Housing Community

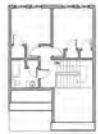
Fig. 154

GATE REVIEW PRESENTATION

April 06, 2009



2 Bedroom Apartment
1,146 SF



Second Floor

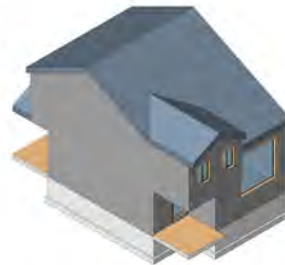


Section

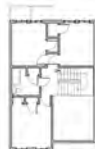


First Floor

Fig. 155



3 Bedroom Apartment
1,320 SF



Second Floor

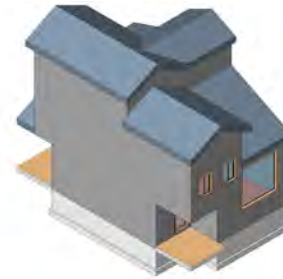


Section



First Floor

Fig. 156



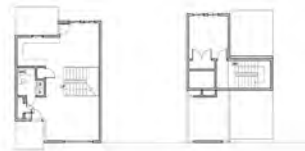
4 Bedroom Apartment
1,570 SF



Second Floor



Section



First Floor

Fig. 157



Apartment Cluster 3
1 BR Unit: 886 SF
2 BR Unit: 1,134 SF
3 BR Unit: 1,702 SF



Section



Second Floor



Fourth Floor



First Floor



Third Floor

Fig. 158

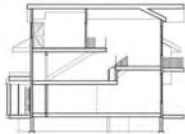
GATE REVIEW PRESENTATION



Apartment Cluster 1
1 BR Unit: 811 SF
2 BR Unit: 1,007 SF
3 BR Unit: 1,578 SF
3 BR Unit: 1,310 SF



Second Floor



Section



First Floor



Third Floor

Fig. 159



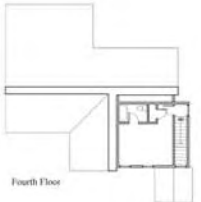
Apartment Cluster 2
1 BR Unit: 912 SF
3 BR Unit: 1,579 SF
3 BR Unit: 1,138 SF



Section



Second Floor



Fourth Floor



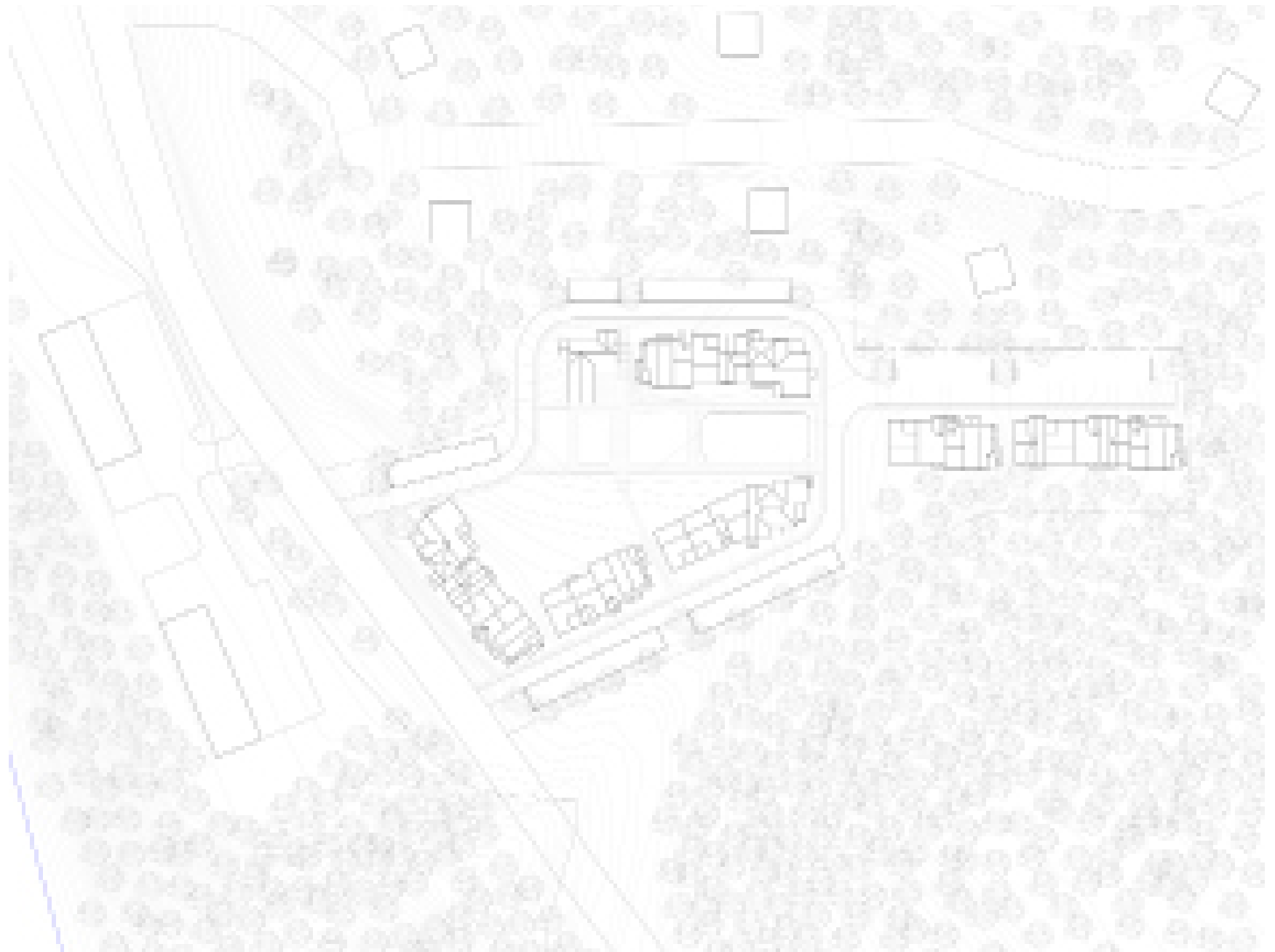
First Floor



Third Floor

Fig. 160

GATE REVIEW PRESENTATION



Site Plan

Fig. 161

GATE REVIEW PRESENTATION



First Floor Plan

Fig. 162

GATE REVIEW PRESENTATION



Second Floor Plan

Fig. 163

GATE REVIEW PRESENTATION



Third Floor Plan

Fig. 164

GATE REVIEW PRESENTATION



Fig. 165



Fig. 166

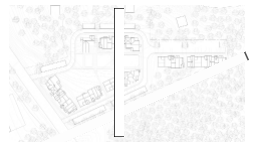
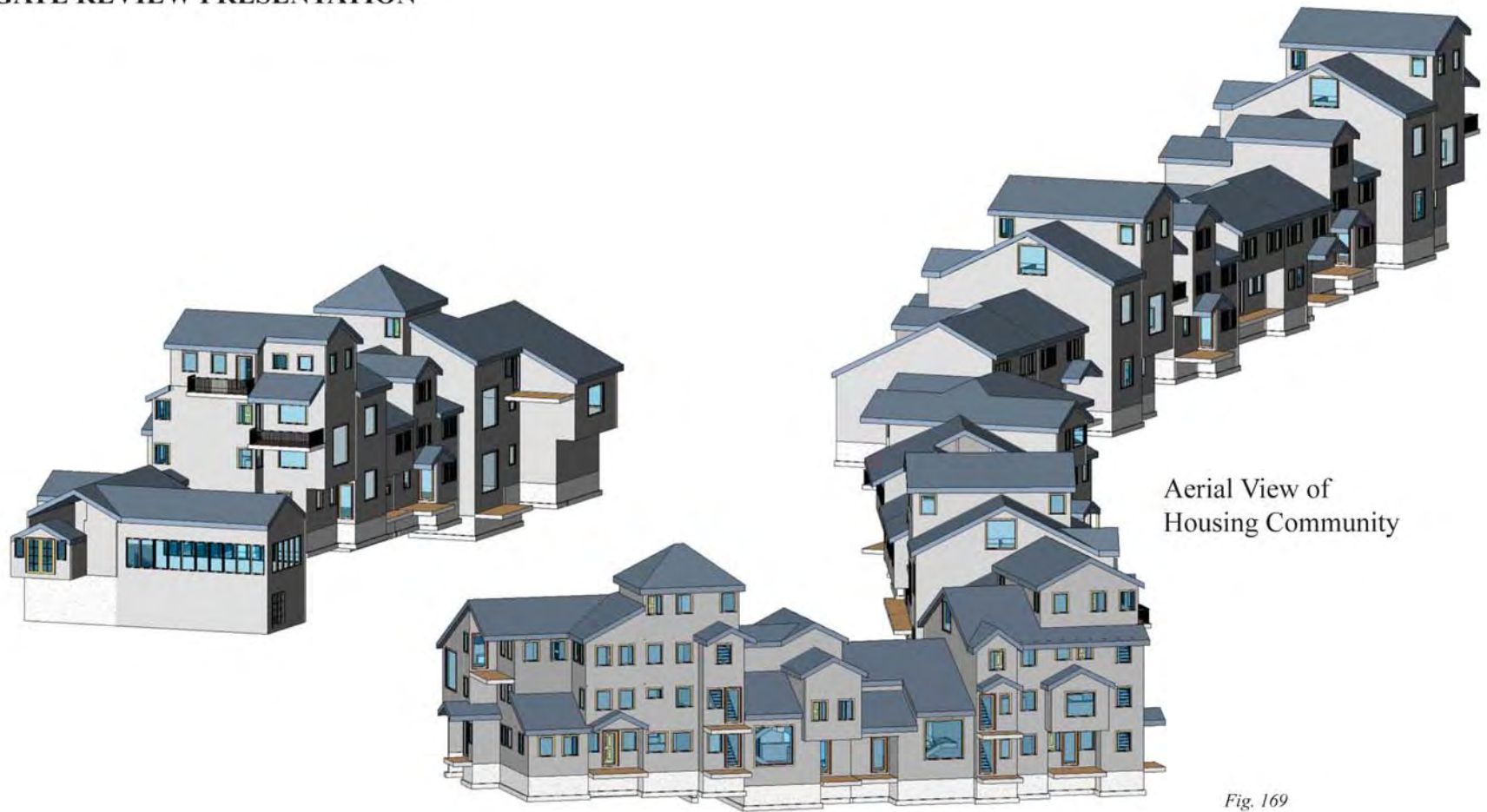


Fig. 167



Fig. 168

GATE REVIEW PRESENTATION



Aerial View of
Housing Community

Fig. 169

Feedback from Review

The general feedback received at the review was primarily concerned with the project's lack of harmony. Although it was acknowledged that I had achieved my goal of giving each unit distinction from one another, it was agreed that there was nothing in the design to bring the entire project together. For the final design it was necessary to establish a common architectural language for the entire project.



Fig. 170



Fig. 171



Fig. 172

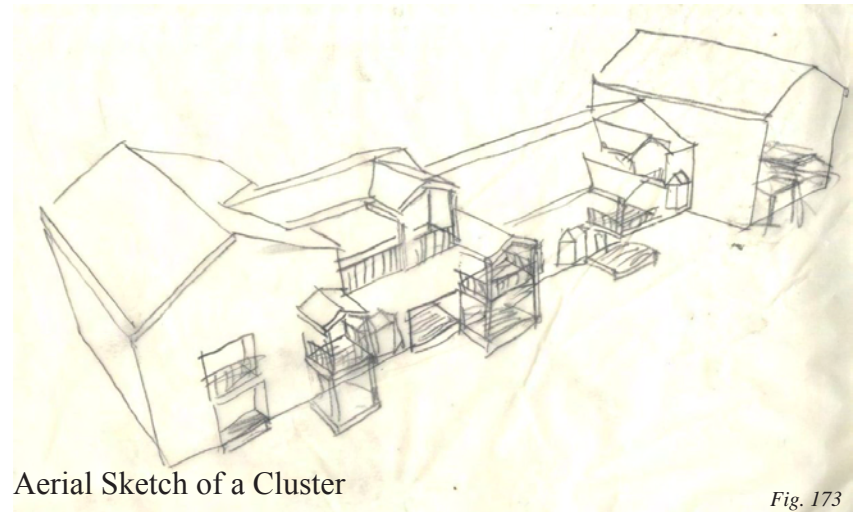
NEW DESIGN CONCEPT

The New England Farmhouse

Seeking a way to bring unity to the project after the GATE review, the idea of representing the New England farmhouse in the design came to mind. Here are three examples of this house type that are typical of the area in which the project is located.

In many cases, an original barn is located on a site, followed later by a house, and often by wing that connected the two. These different phases are evident in the three examples.

This concept was used for the final design of the project with five different clusters of dwelling units arranged in a way that represents these three phases. This brought a sense of harmony and unity to the project as well as establishing it within the site's context.



Aerial Sketch of a Cluster

Fig. 173



FINAL DESIGN

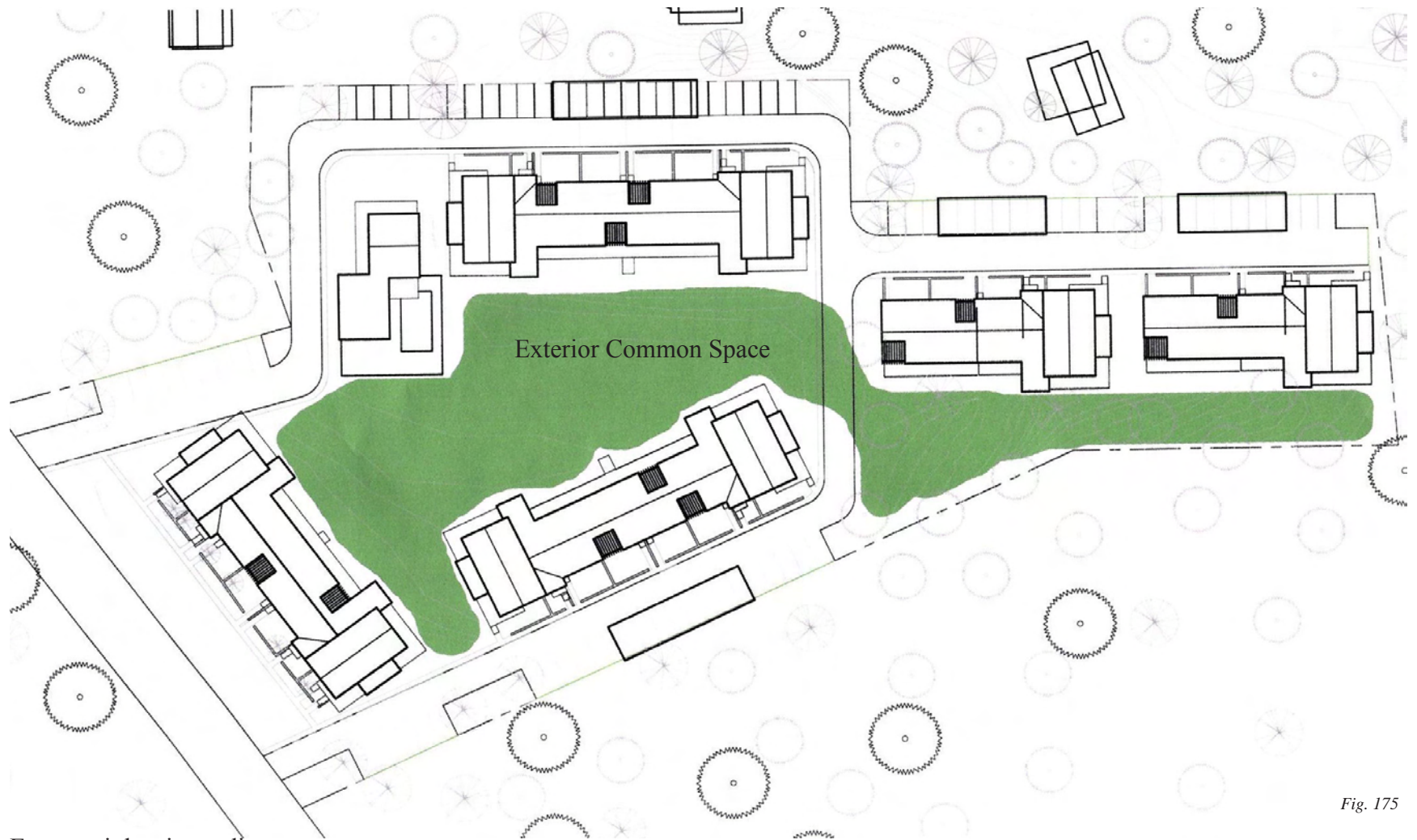
Program:

Apartments	# of units	SF
1 BR	8	744
2 BR	13	912 - 1,056
3 BR	14	1,056 - 1,296
4 BR	6	1,440-1,700

Community Space	SF
Community Building	1,700
Outdoor Patio	1,400
Outdoor Swimming Pool	500

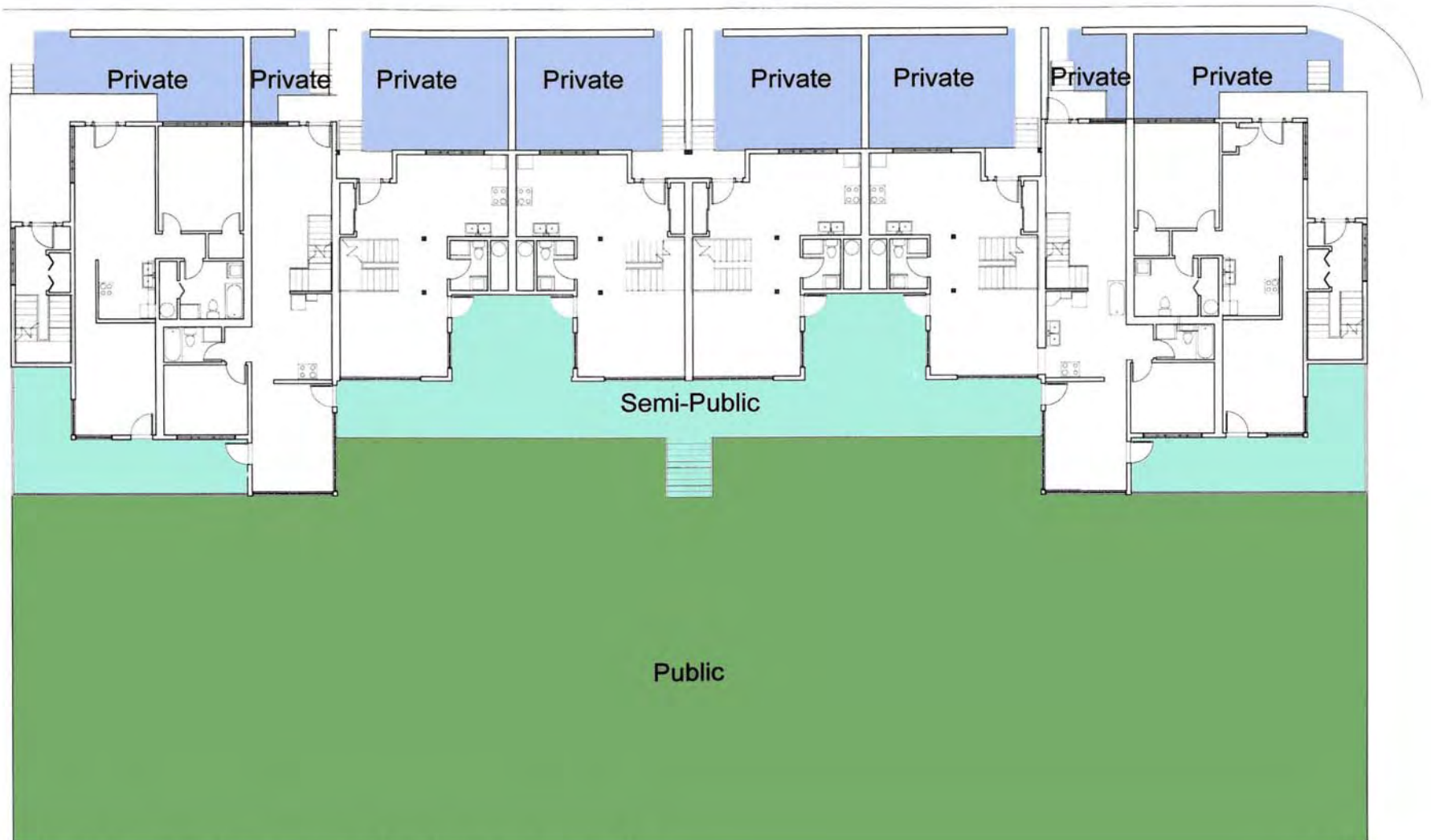
Parking
80 Spaces

Fig. 174



Every unit has immediate access to the community's exterior common space.

Fig. 175



Each unit has immediate access to shared common spaces, but also has its own private front yard, privatized by vegetation that create a barrier from the street and the neighbors' yards.

Fig. 176

Opposite the private front yards are shared decks or patios. They are only shared by the units that open onto them. These then lead to the common space shared by the entire housing community.

Framing Module for Typical Units

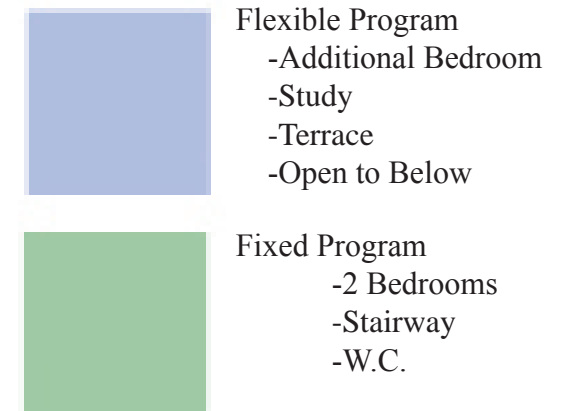
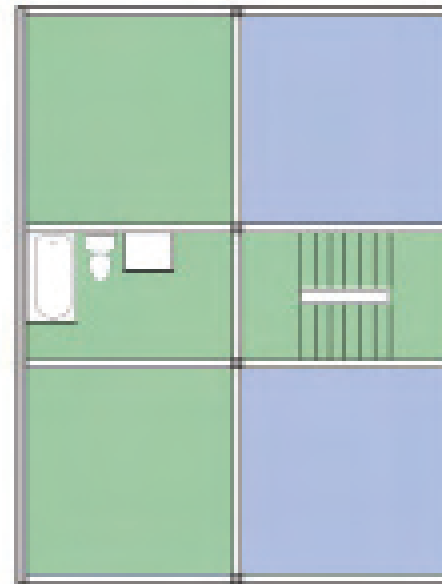
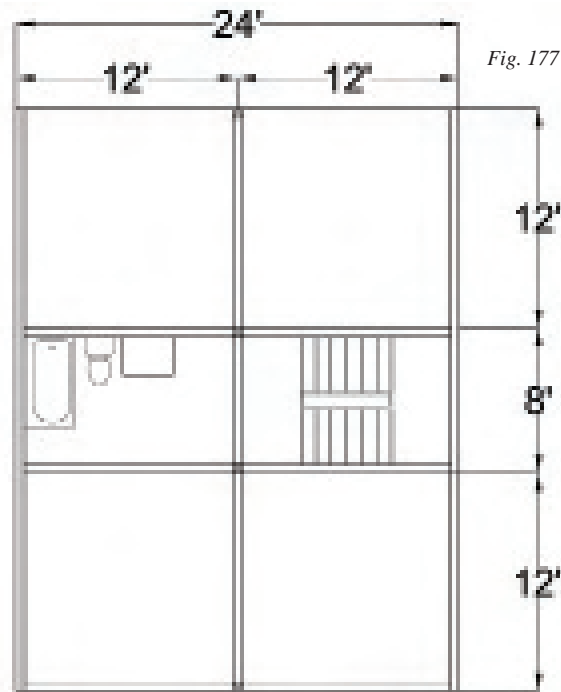
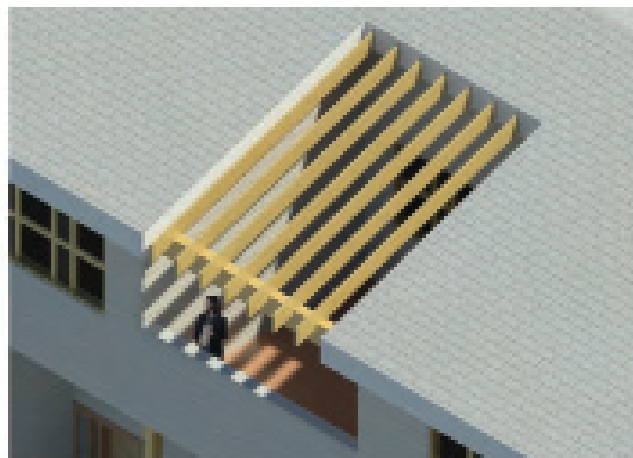


Fig. 178

Framing Module Informs Program

The framing strategy for the typical units stays consistent while the program varies. Variations within a common framing module allow for individuality of the units and affordability at the same time.

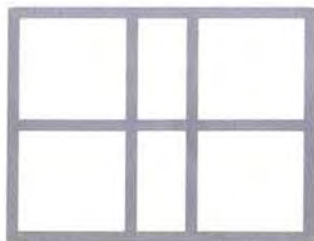


The roof structure is continued through voids in the roof to emphasize the continuity of the structural system that brings uniformity to the individual dwelling units.

Fig. 179



Fig. 180



The windows are framed by a module that was developed from the framing plan. From the default 4' x 5' window, panels can be added on with the same pattern to create variations in window sizes. With this pattern, lines can be carried through all windows horizontally and vertically.

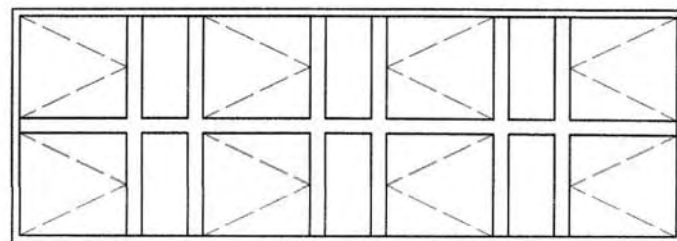
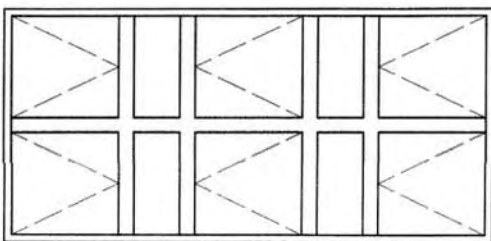
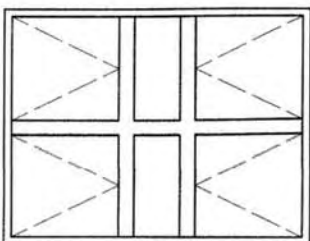
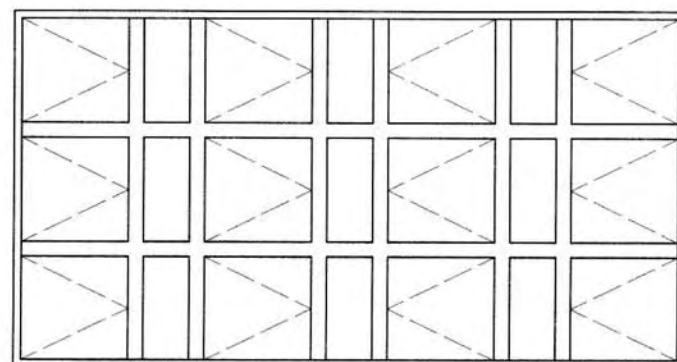
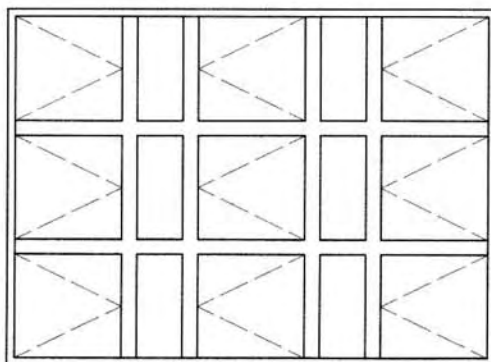
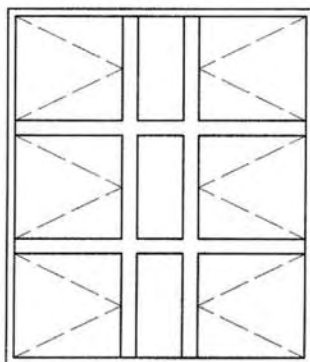
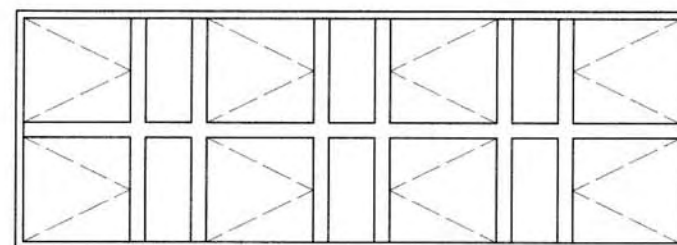
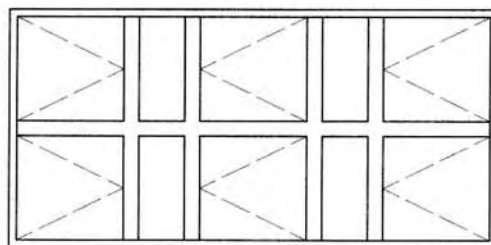
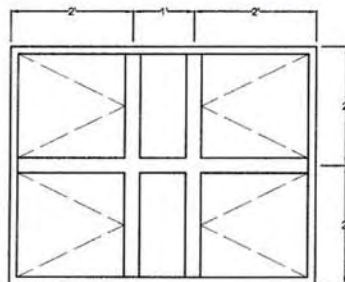


Fig. 181

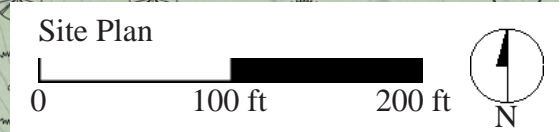


Fig. 182

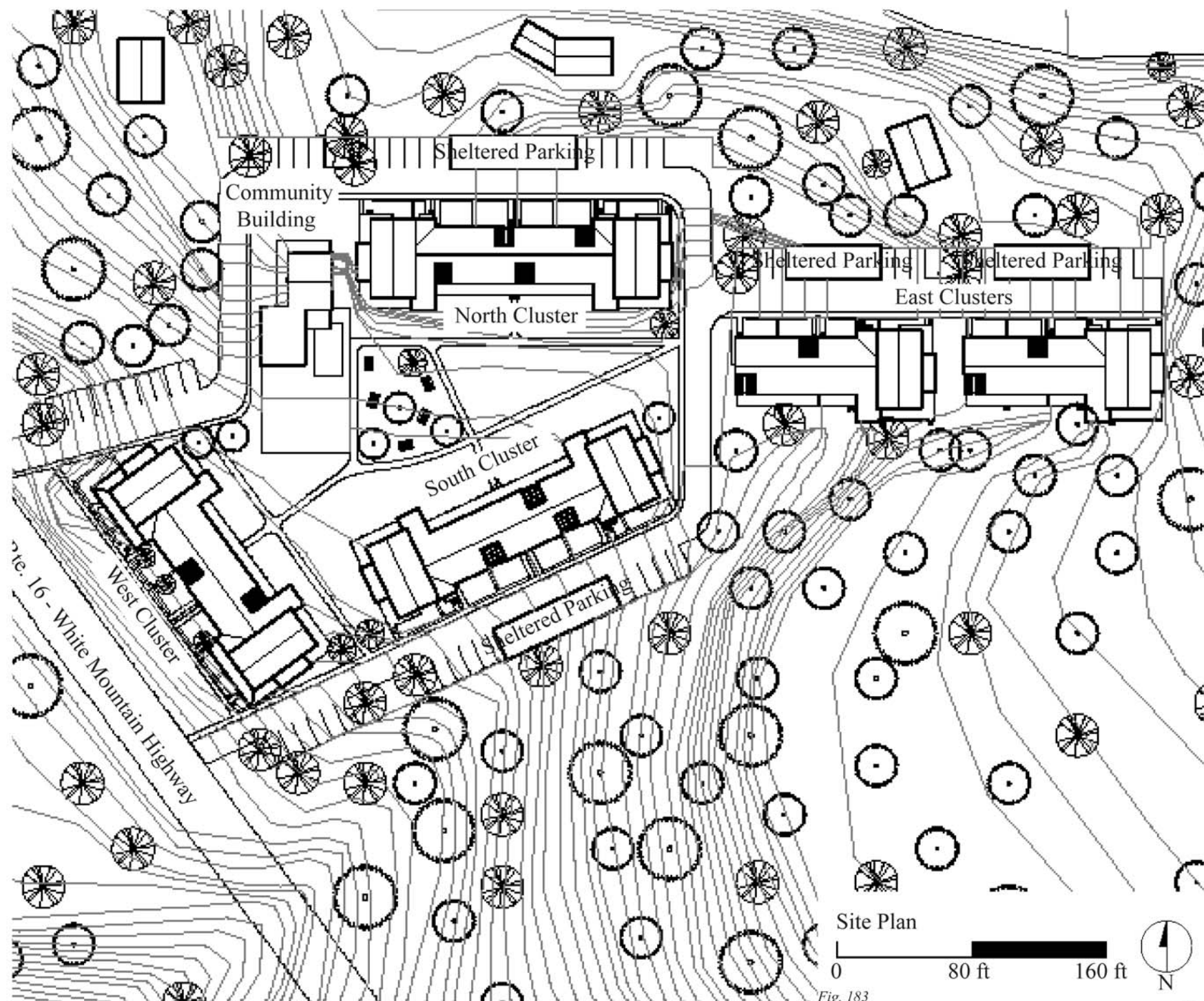


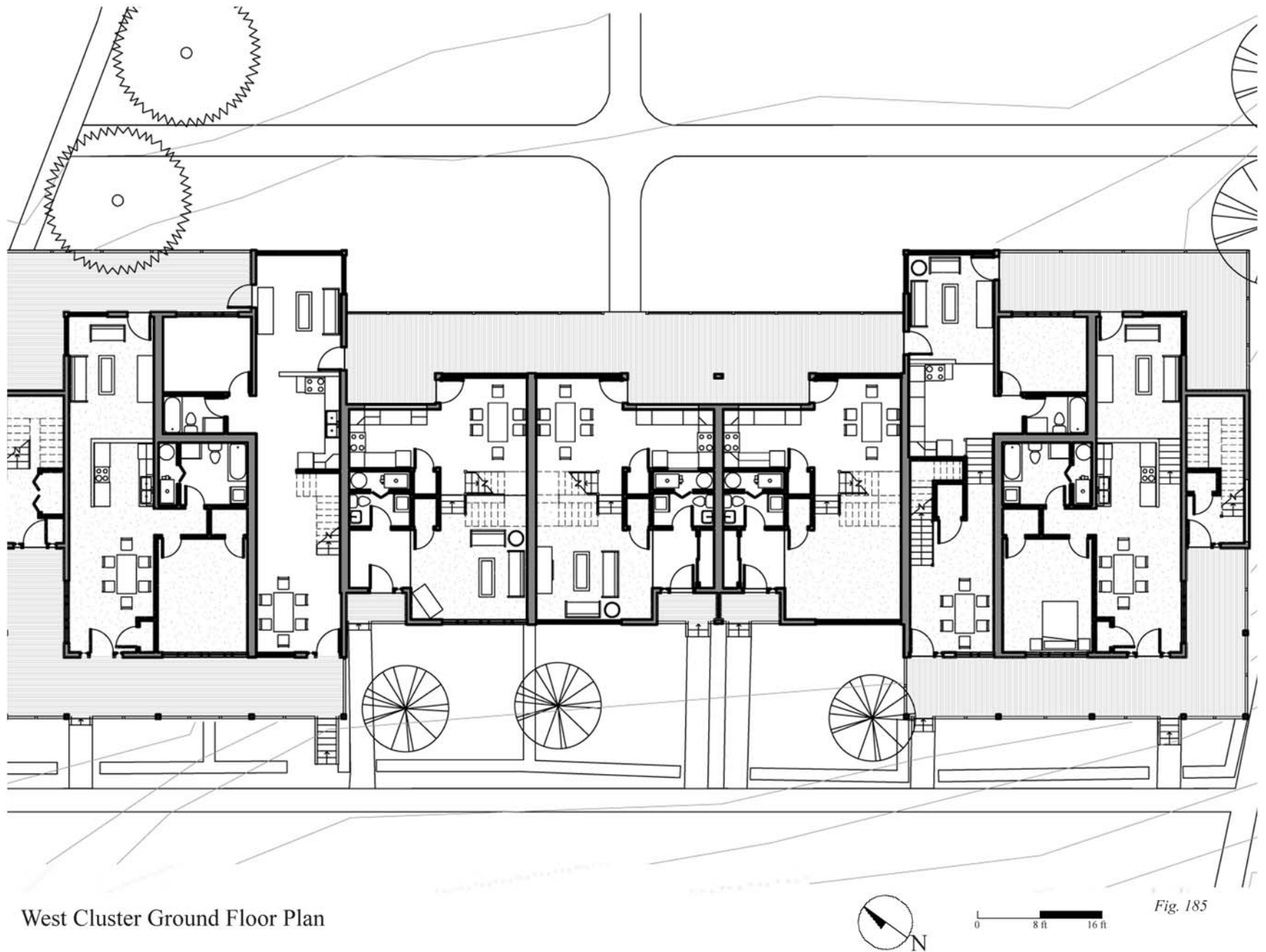
Fig. 183

WEST CLUSTER



Fig. 184





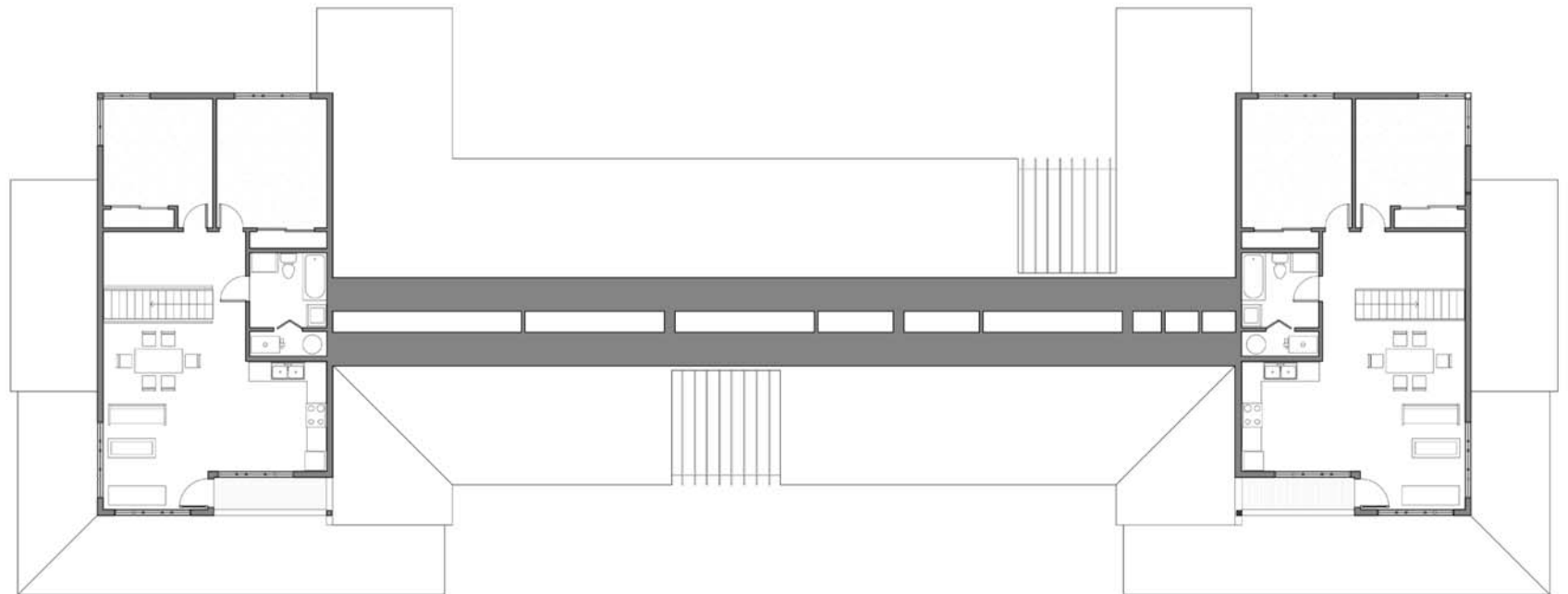
West Cluster Ground Floor Plan

Fig. 185



West Cluster Second Floor Plan

Fig. 186



West Cluster Third Floor Plan

0 8 ft 16 ft

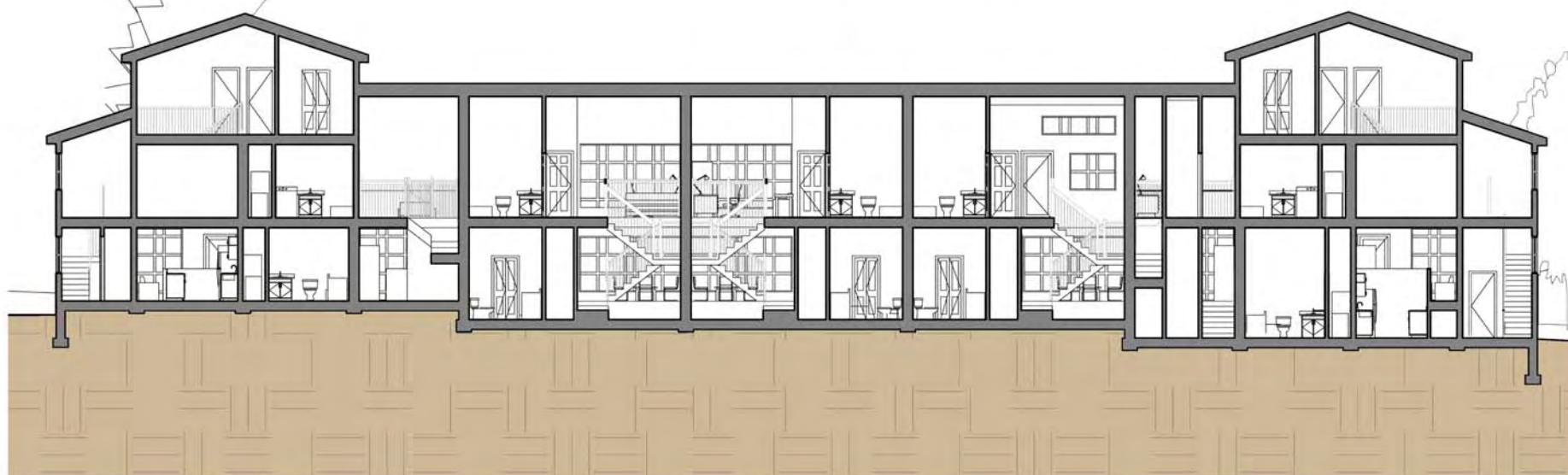
Fig. 187
105



West Cluster South-West Elevation

Fig. 188

0 16 ft 32 ft



West Cluster Longitudinal Section

Fig. 189

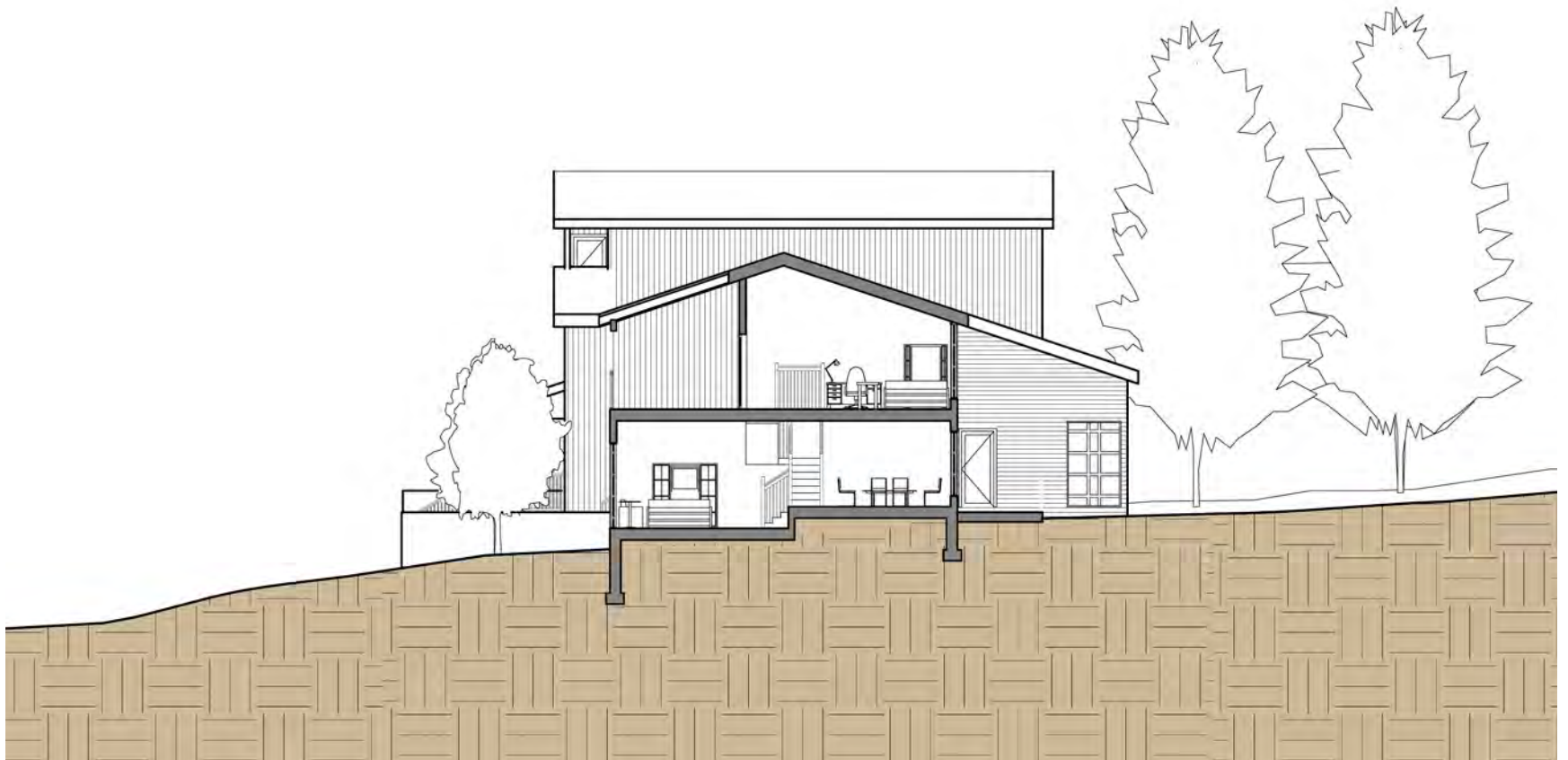
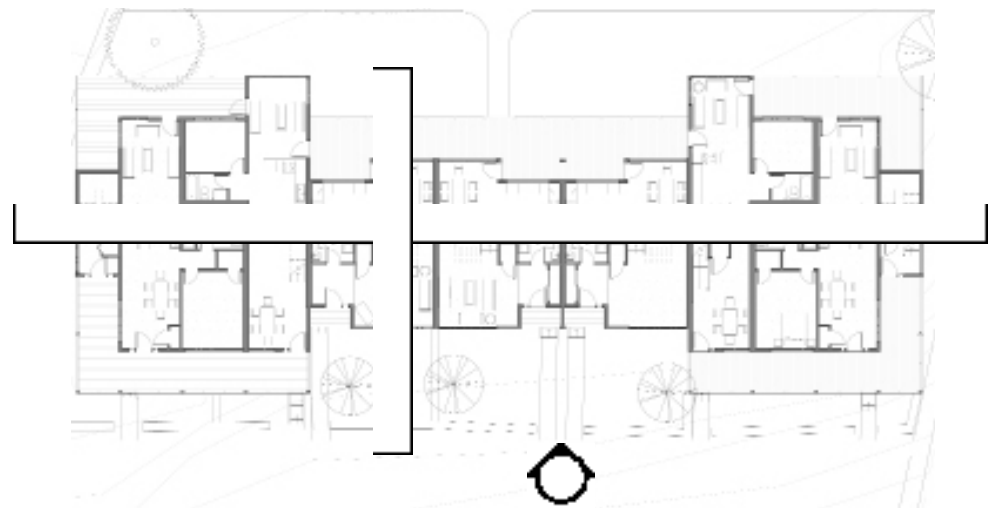


Fig. 190

West Cluster Transverse Section

0 16 ft 32 ft





View of West Cluster from Rte. 16 Looking North

Fig. 1

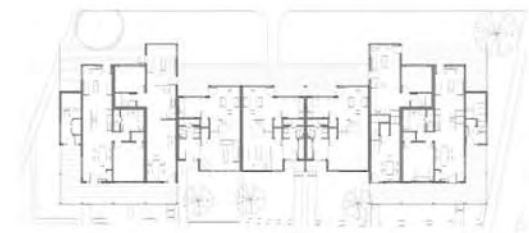
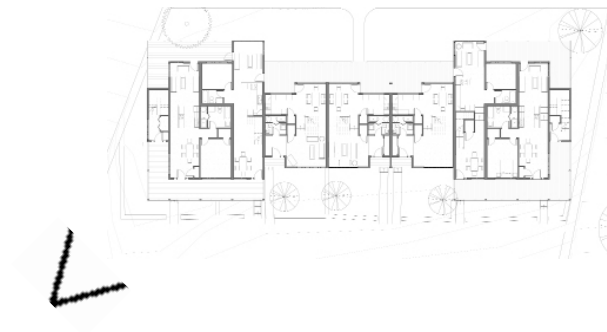




Fig. 192

View of West Cluster from Rte. 16 Looking South





View of Common Outdoor Space from 2nd Story Roof Terrace

Fig. 193

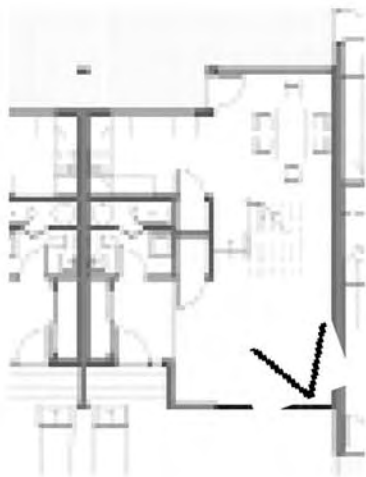




View of Study

Fig. 194





View from Living Room

NORTH CLUSTER

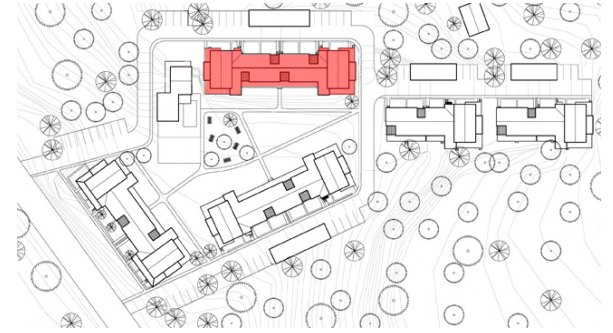
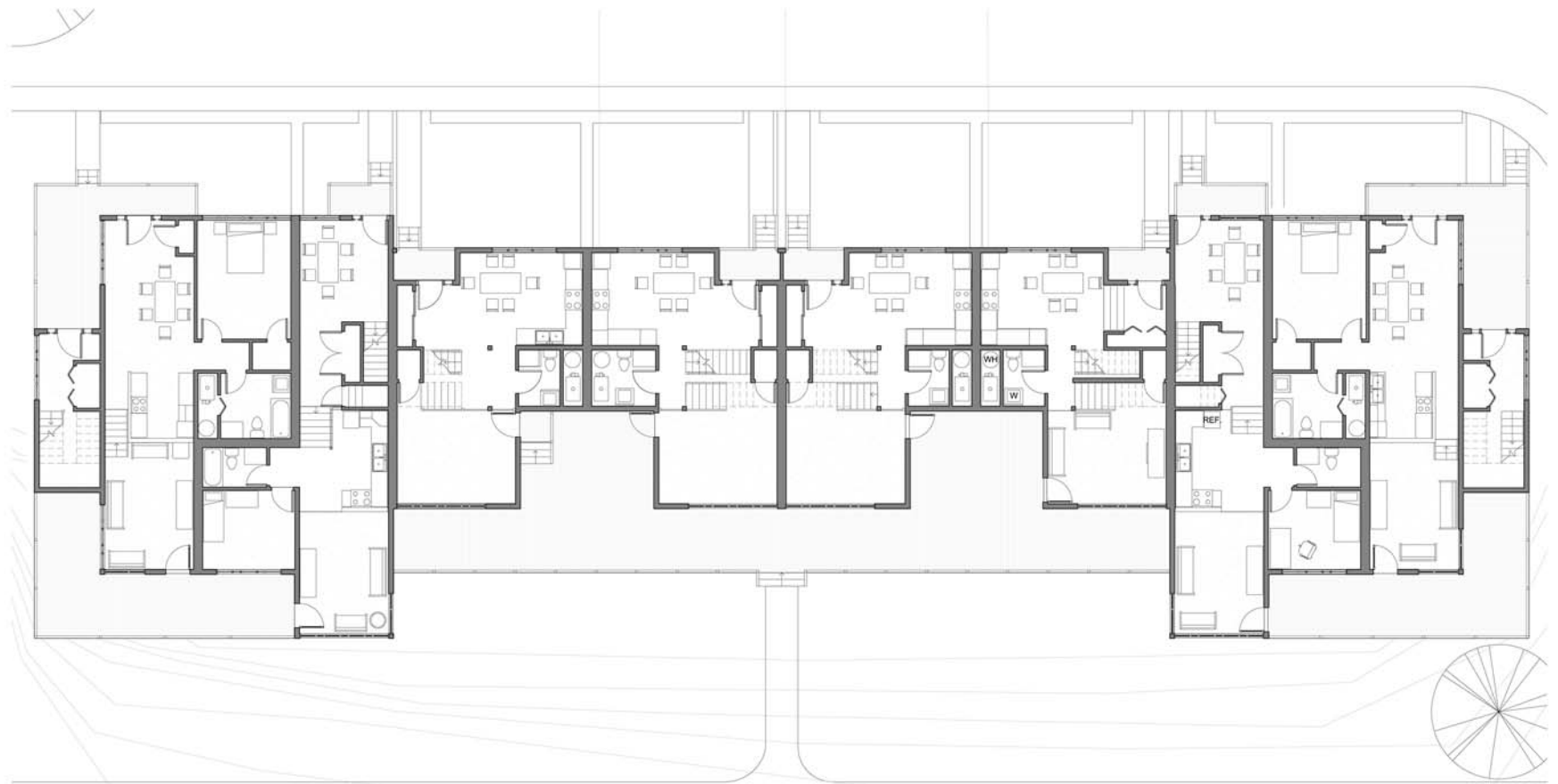


Fig. 196

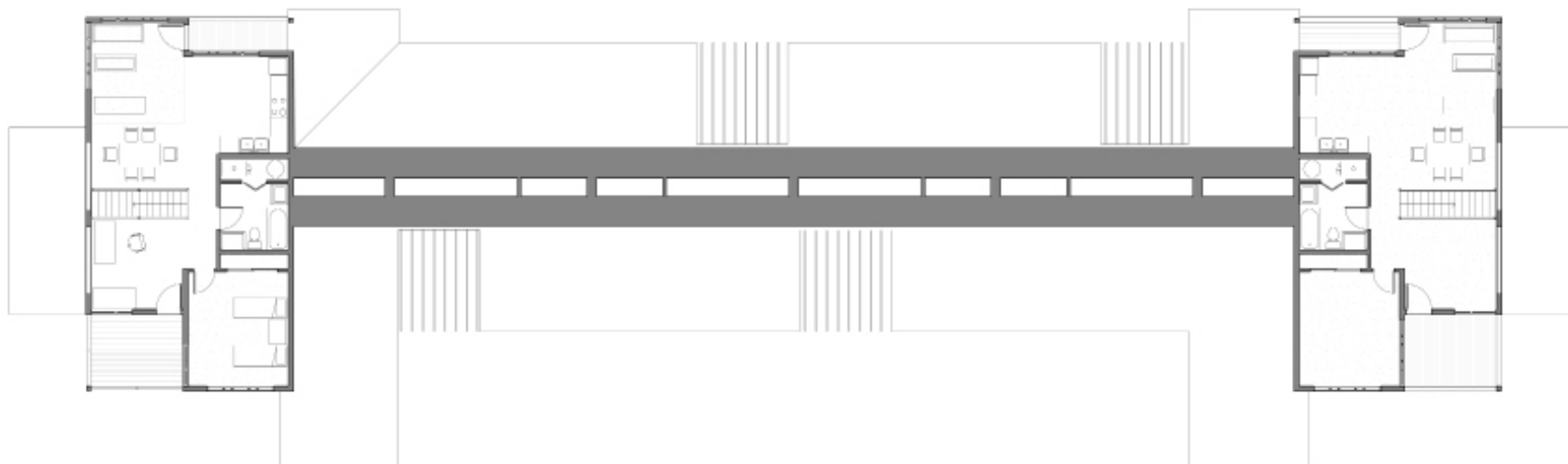




North Cluster Ground Floor



Fig. 197



North Cluster Third Floor Plan

Fig. 198



North Cluster Second Floor Plan

Fig. 199



North Cluster North Elevation

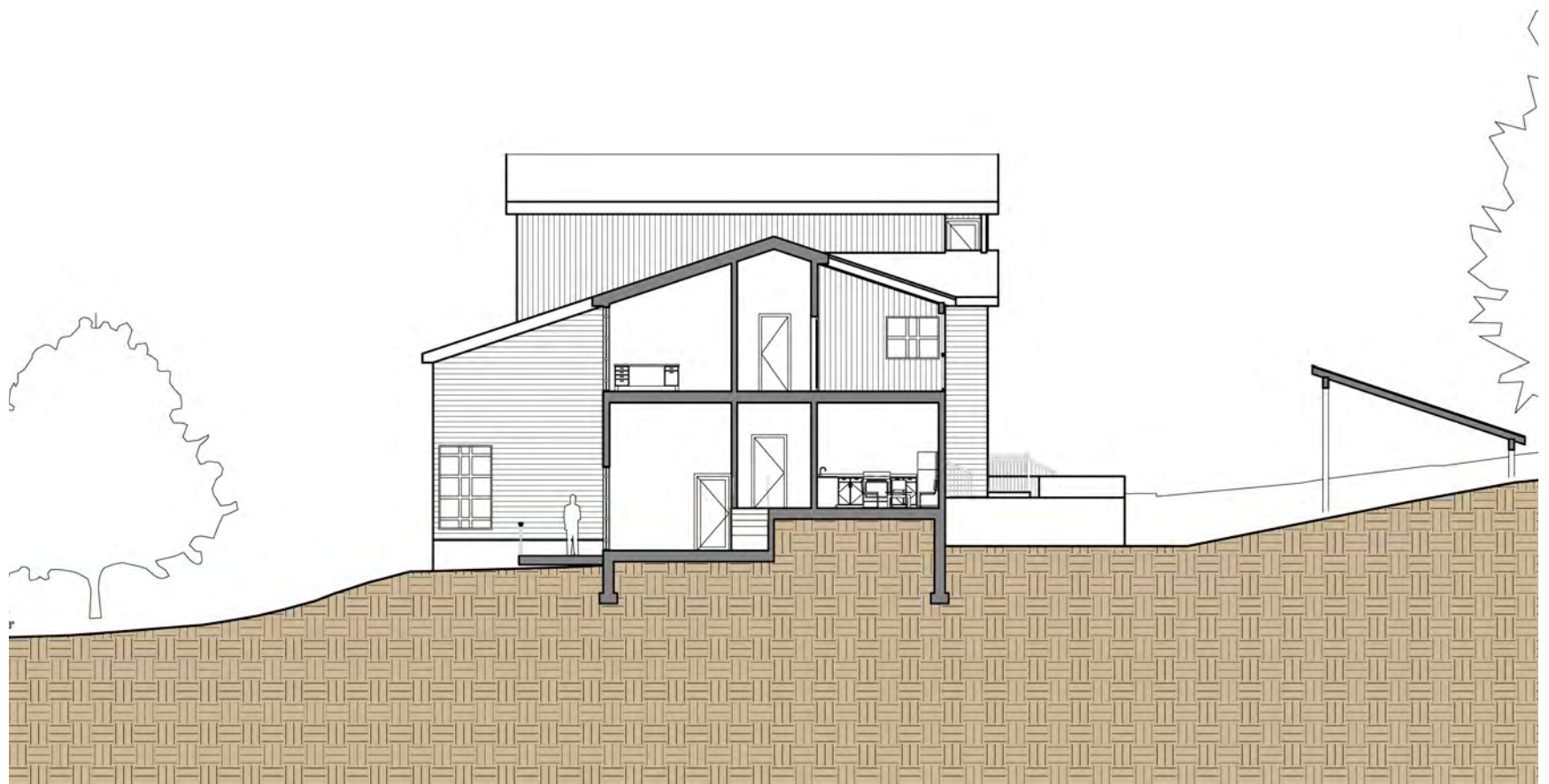
Fig. 200



North Cluster Longitudinal Section

Fig. 201

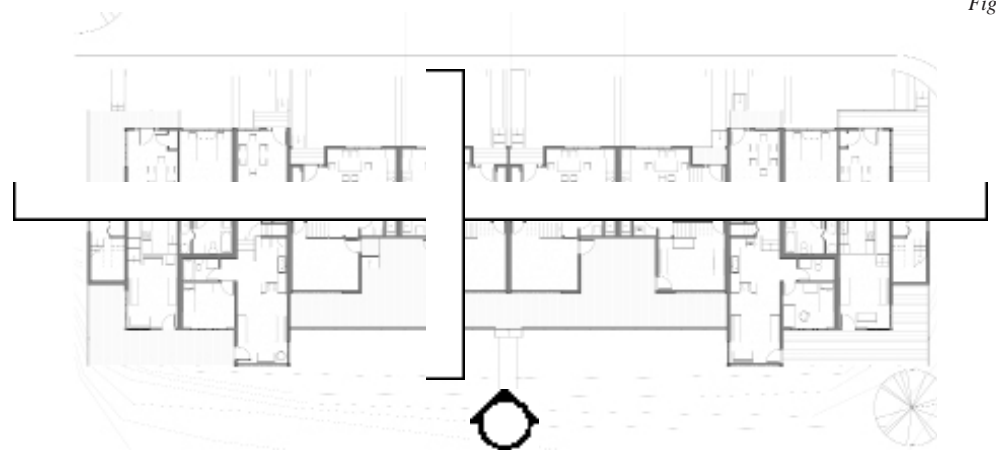
0 16 ft 32 ft



North Cluster Transverse Section

Fig. 202

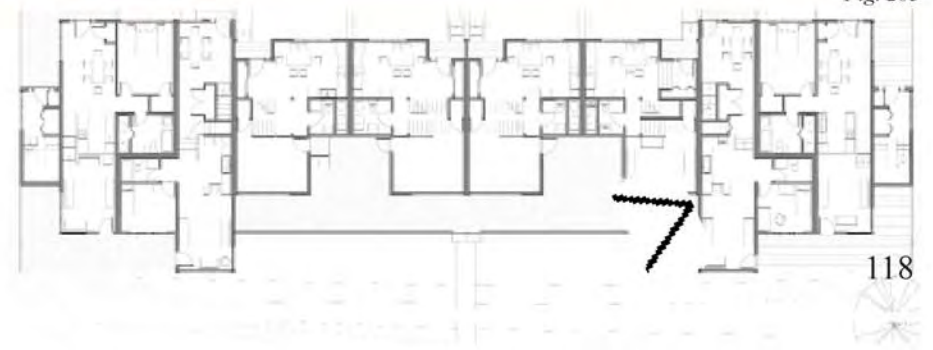
0 16 ft 32 ft





View of Outdoor Common Space from Rear Deck

Fig. 203





View from Study

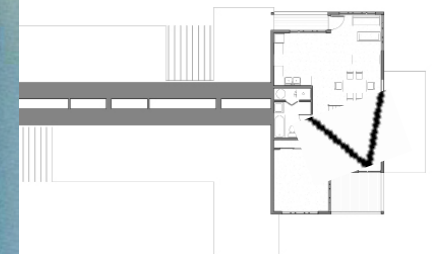


Fig. 204

SOUTH CLUSTER

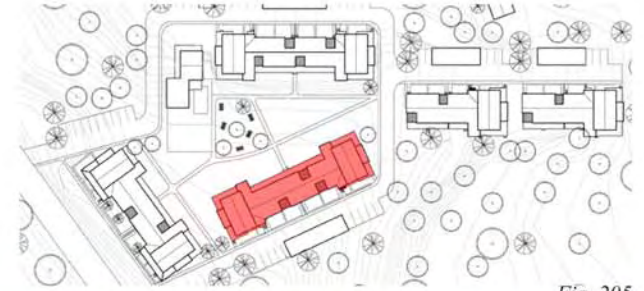
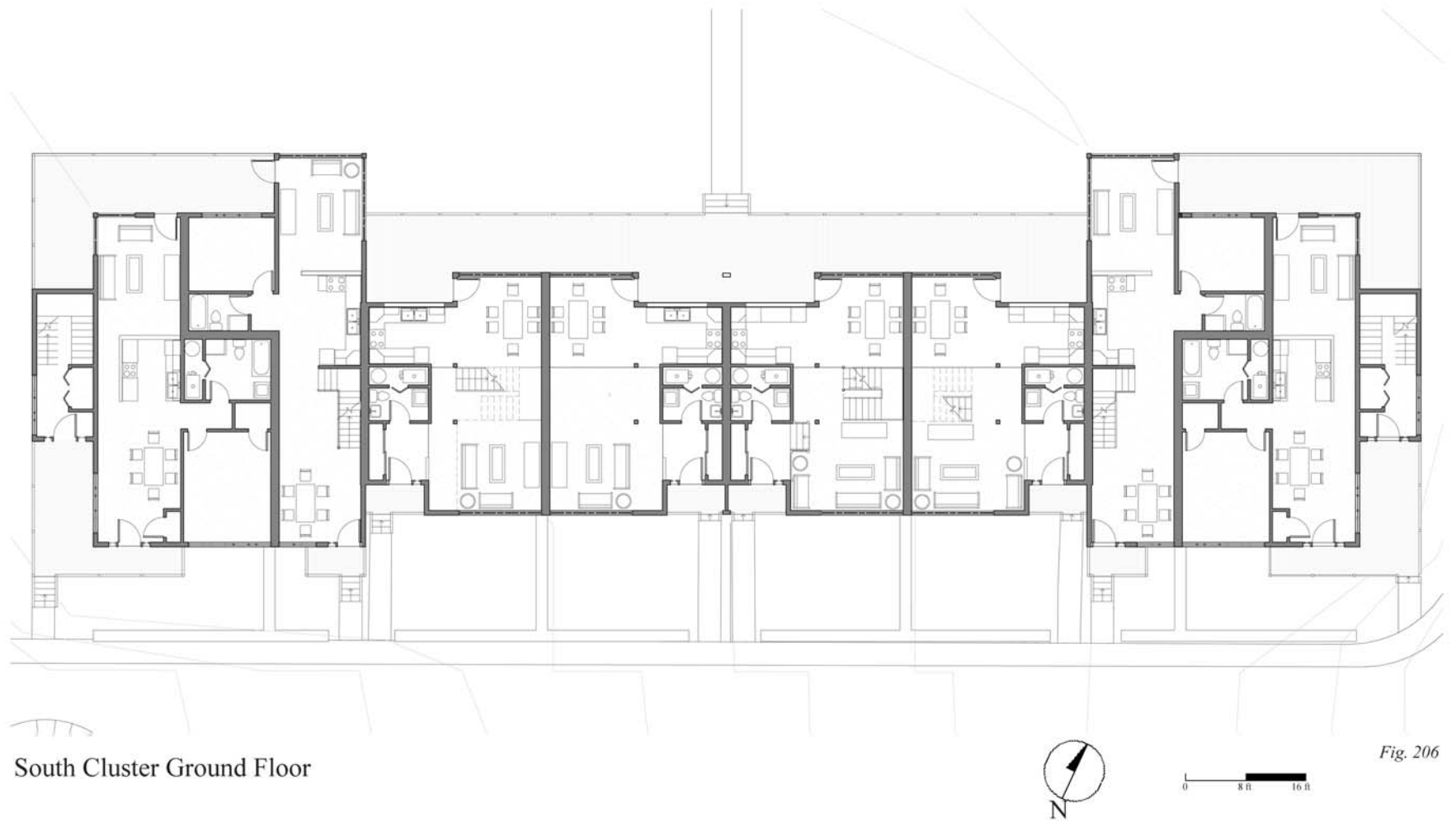
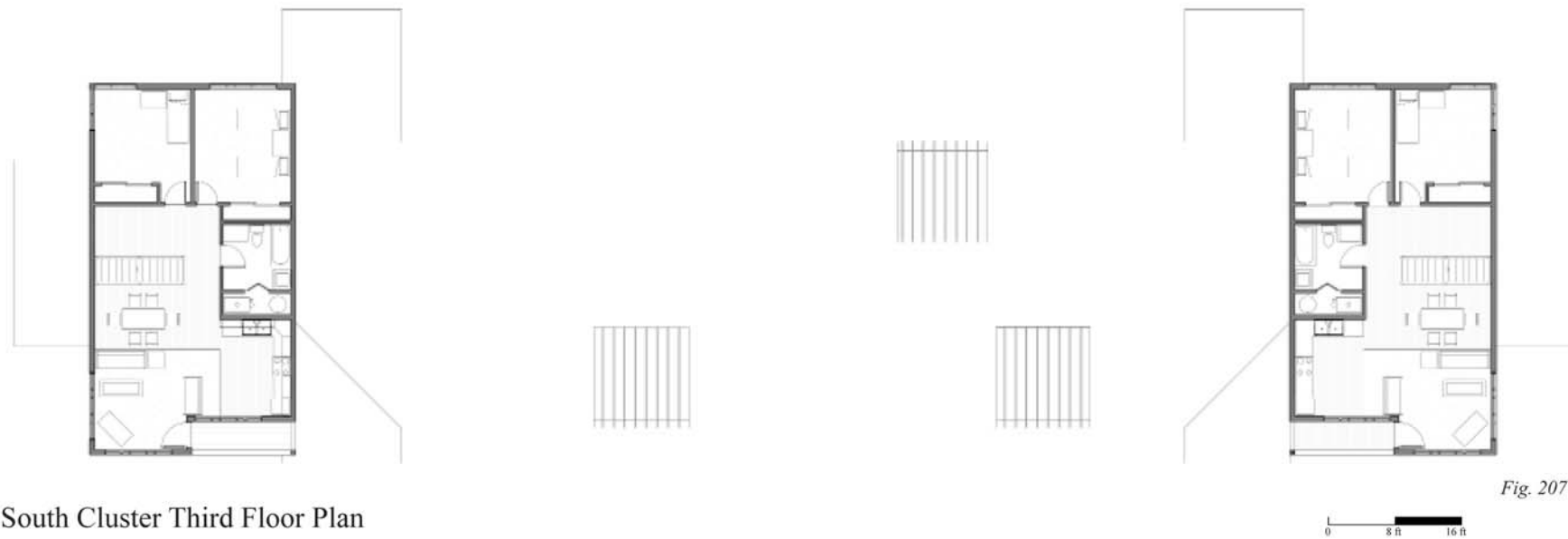
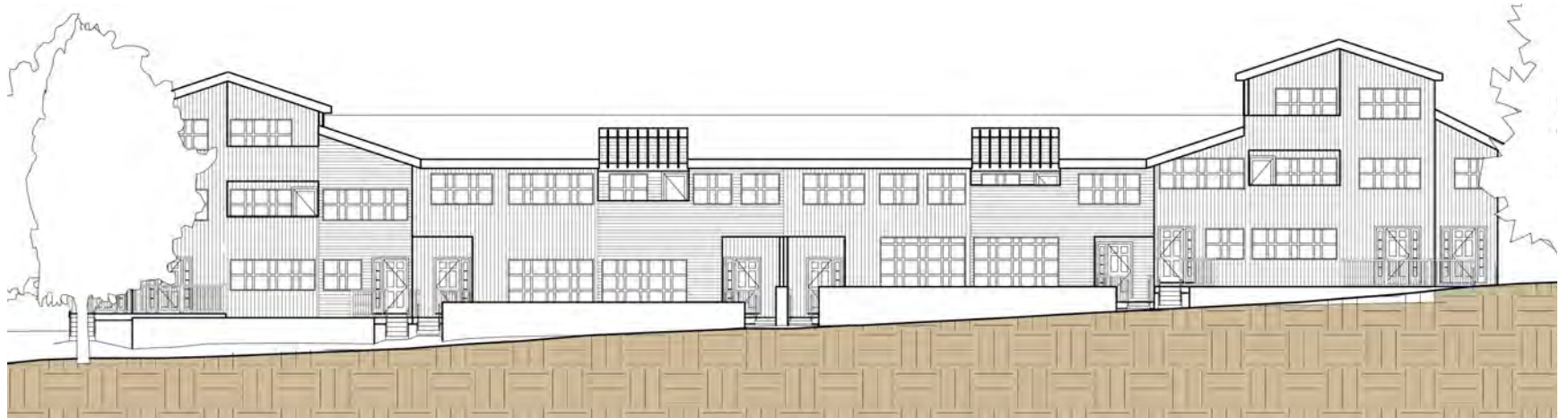


Fig. 205



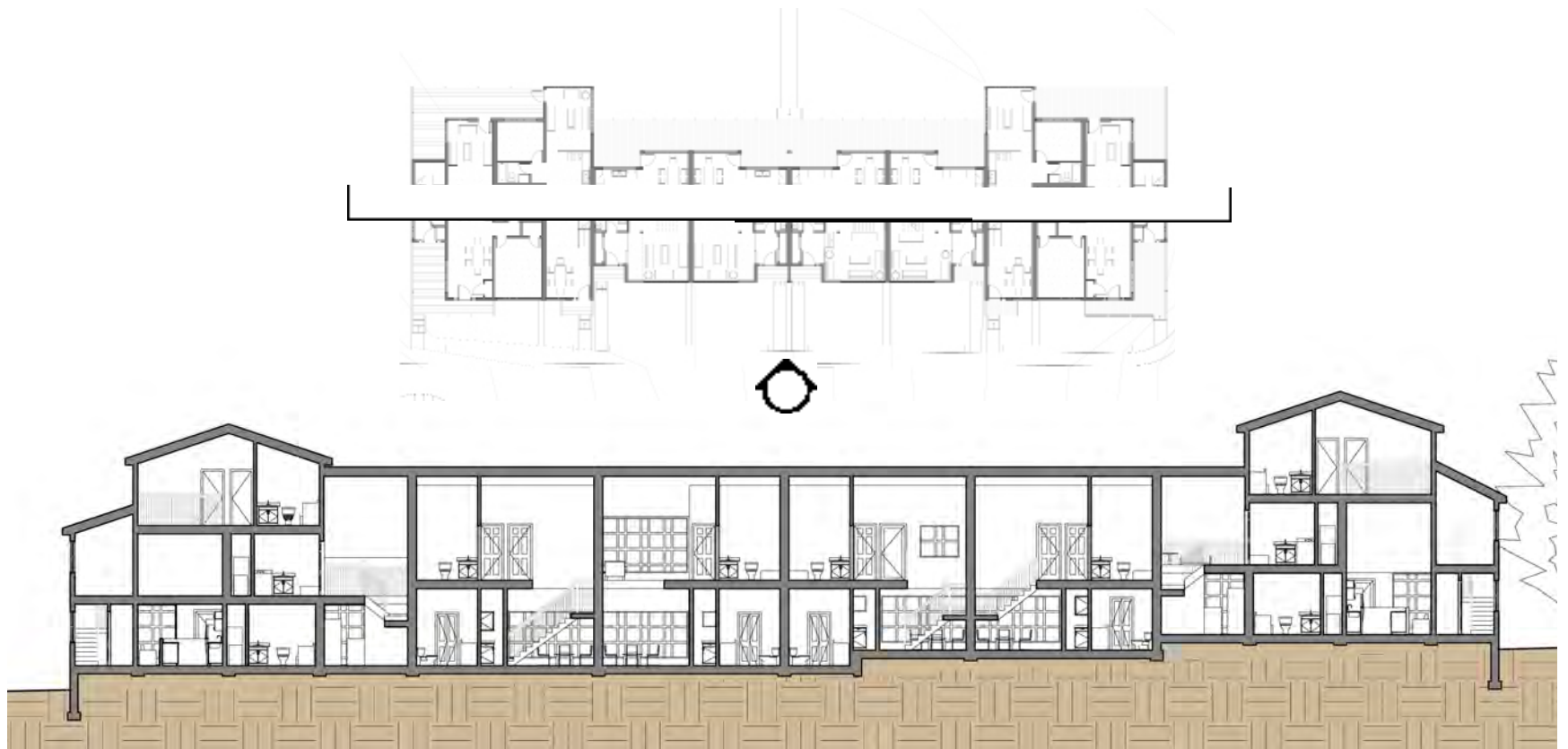






South Cluster South Elevation

Fig. 209



South Cluster Longitudinal Section

Fig. 210

0 16 ft 32 ft



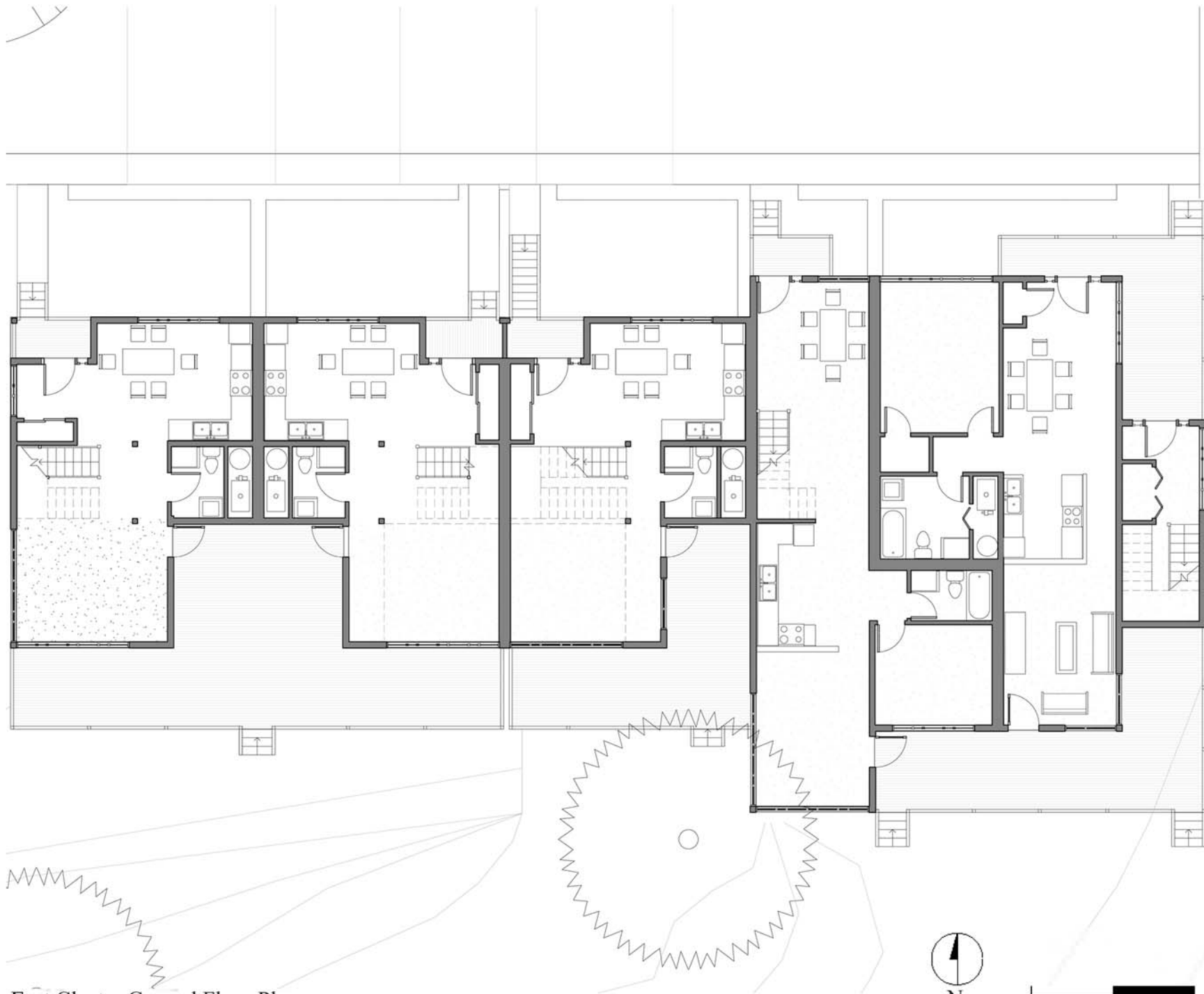
View of Kitchen and Dining Room from Living Room



EAST CLUSTER

Fig. 212

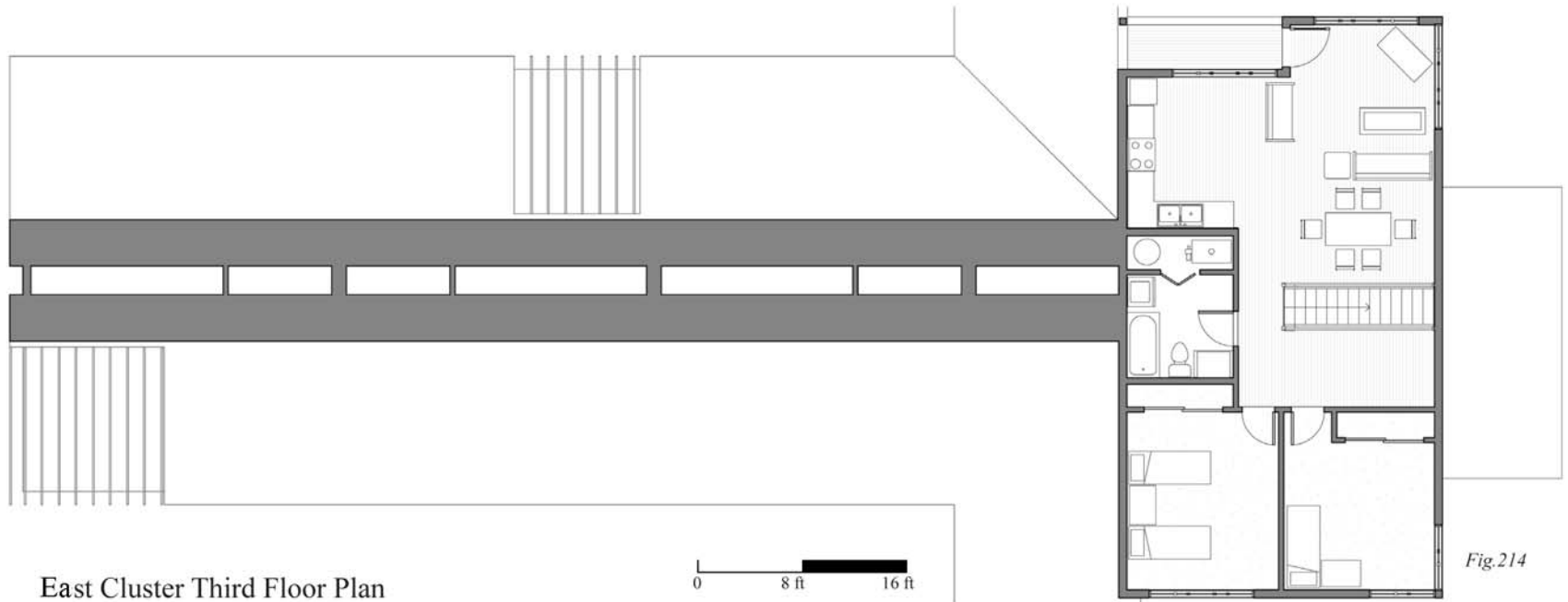




East Cluster Ground Floor Plan



0 8 ft 16 ft





West Cluster North Elevation

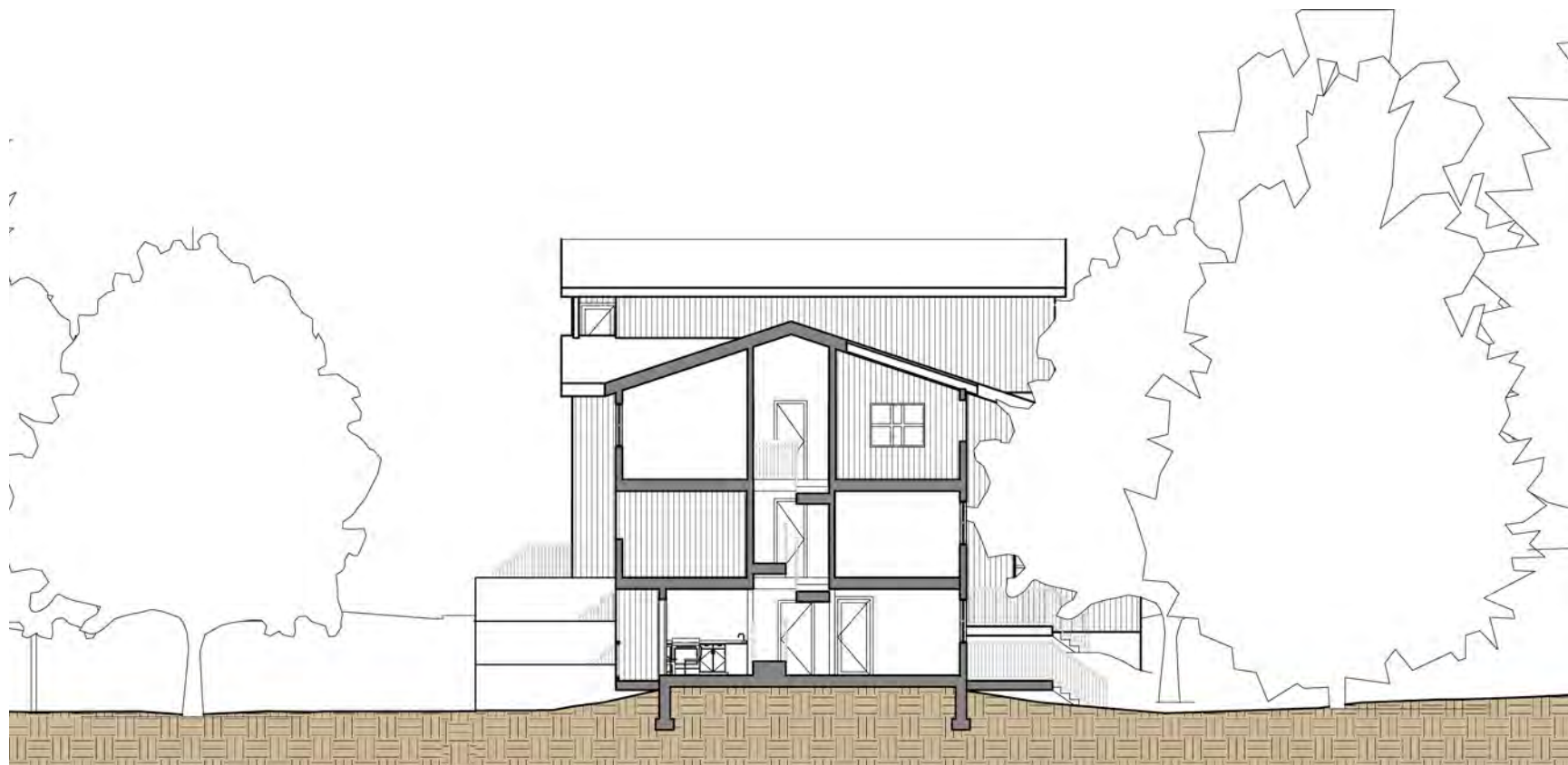
Fig. 216



East Cluster Longitudinal Section

Fig. 217

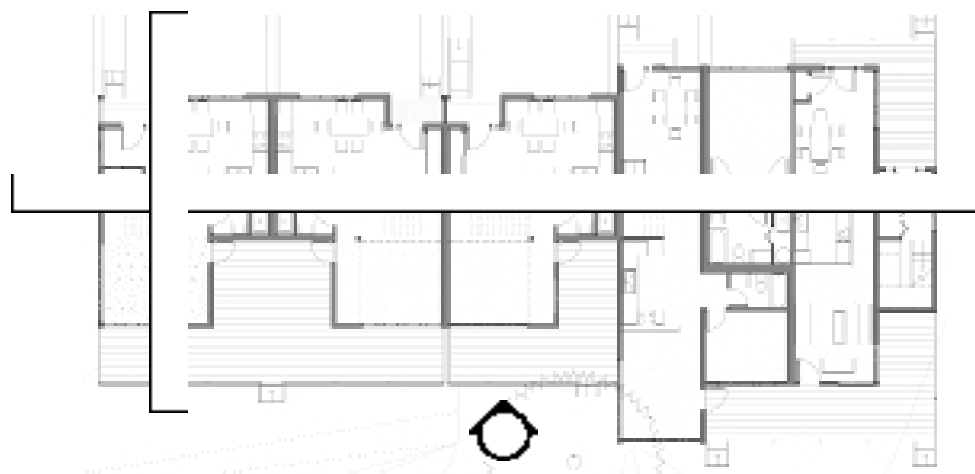
0 16 ft 32 ft



East Cluster Transverse Section

0 16 ft 32 ft

Fig. 218





View of Cathedral Ledge and Common Space from 3rd Floor Terrace



Fig. 219



View of East Clusters

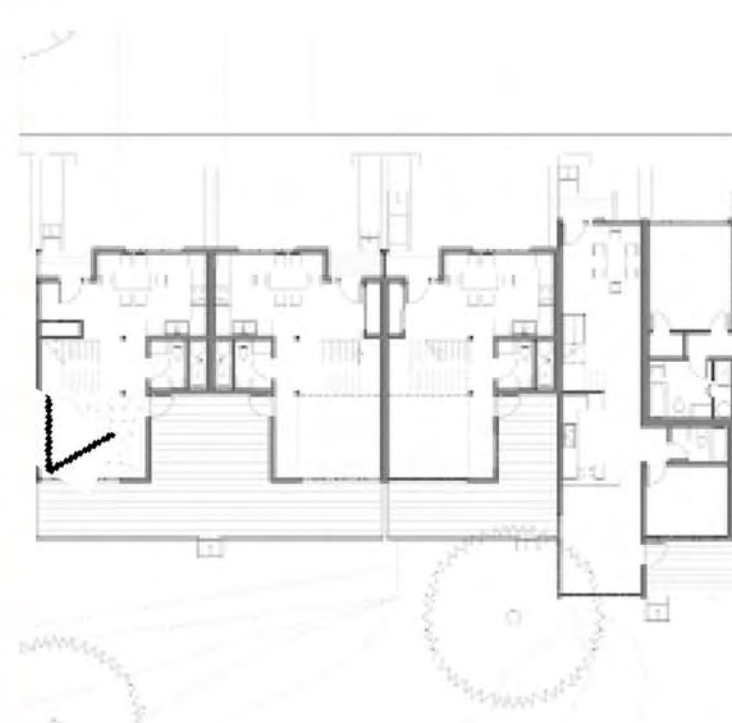
Fig. 220

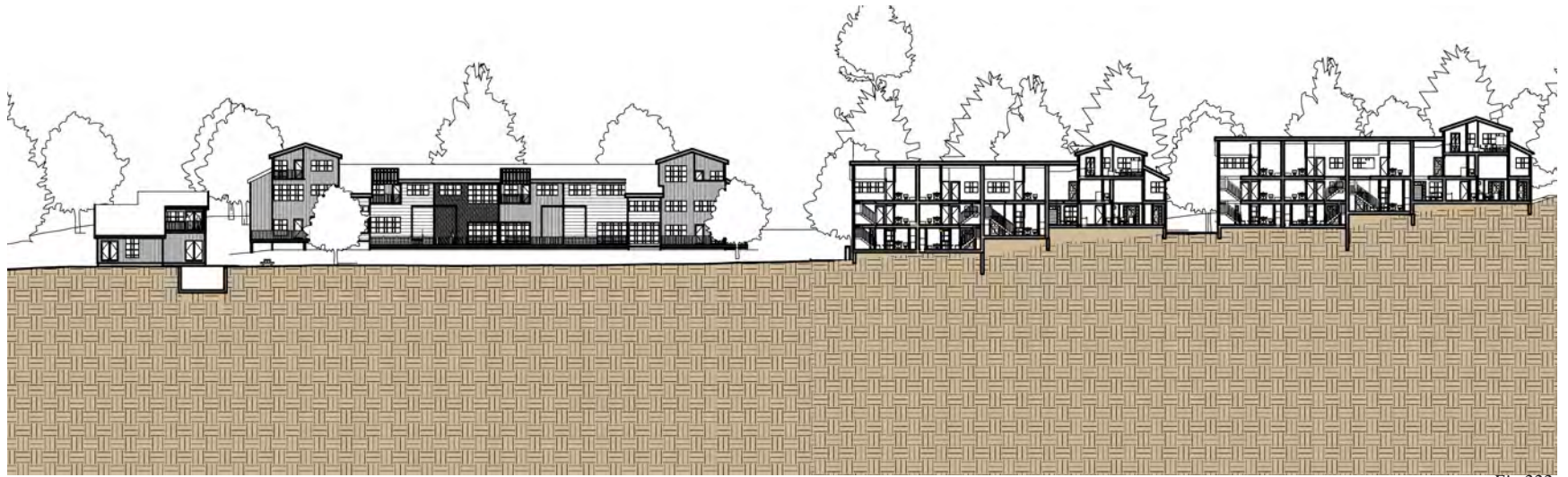




View from Living Room

Fig. 221

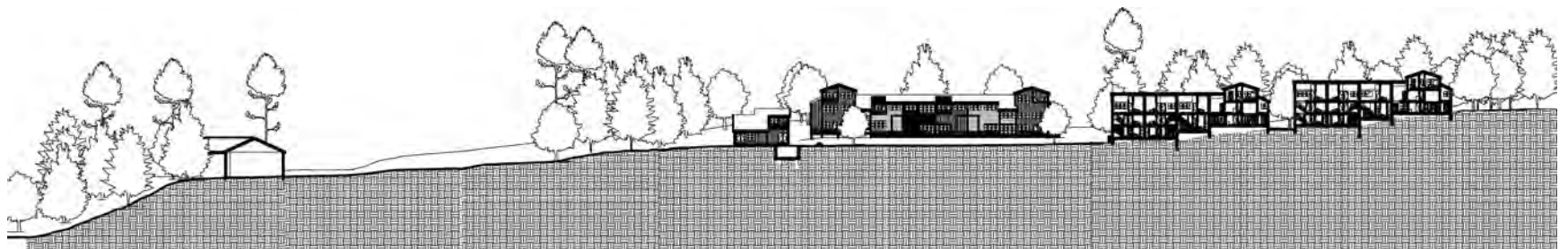




East-West Longitudinal Site Section

Fig. 222

0 128 ft 256 ft



Longitudinal Site Section Down to River

Fig. 223

0 64 ft 128 ft

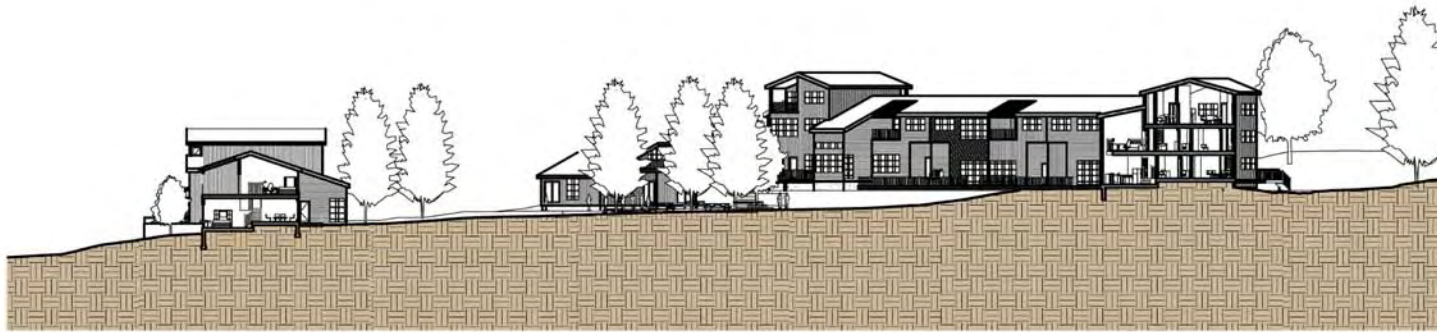
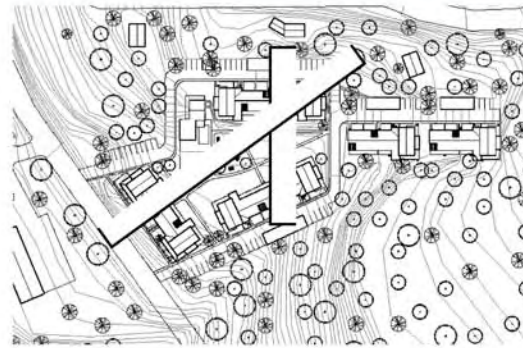
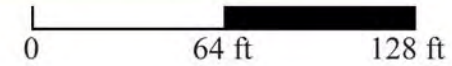


Fig. 224

Longitudinal Site Section Perpendicular to Rte 16



North-South Site Section

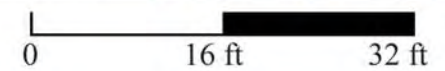


Fig. 225

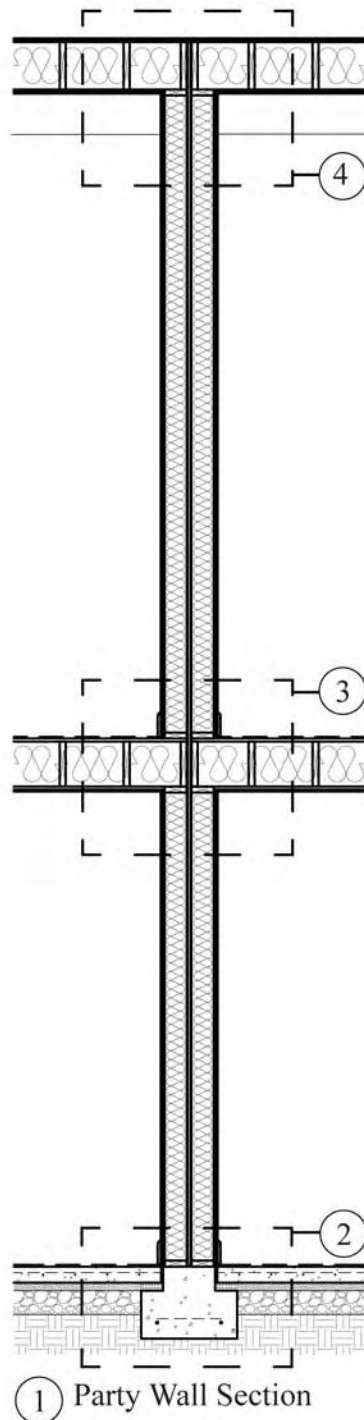


Fig. 226

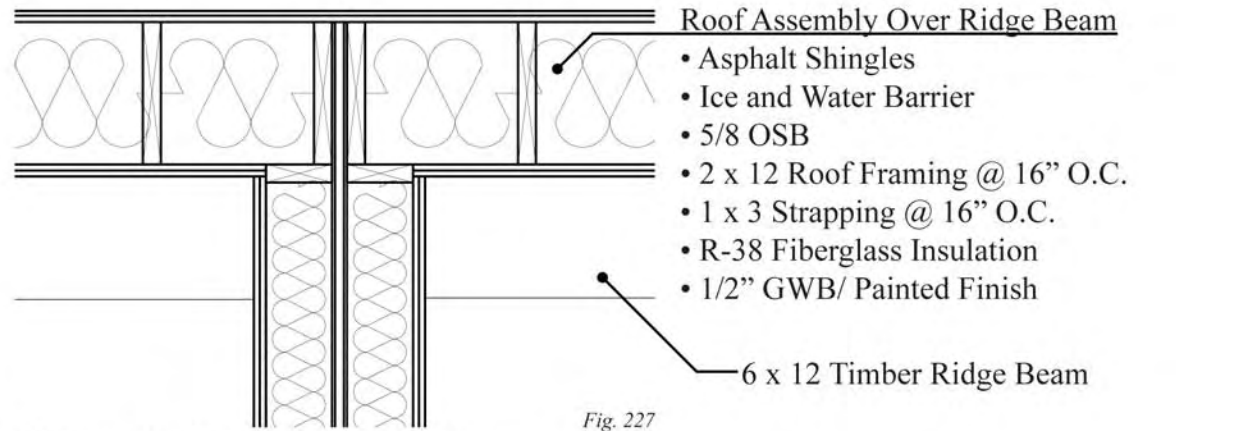


Fig. 227

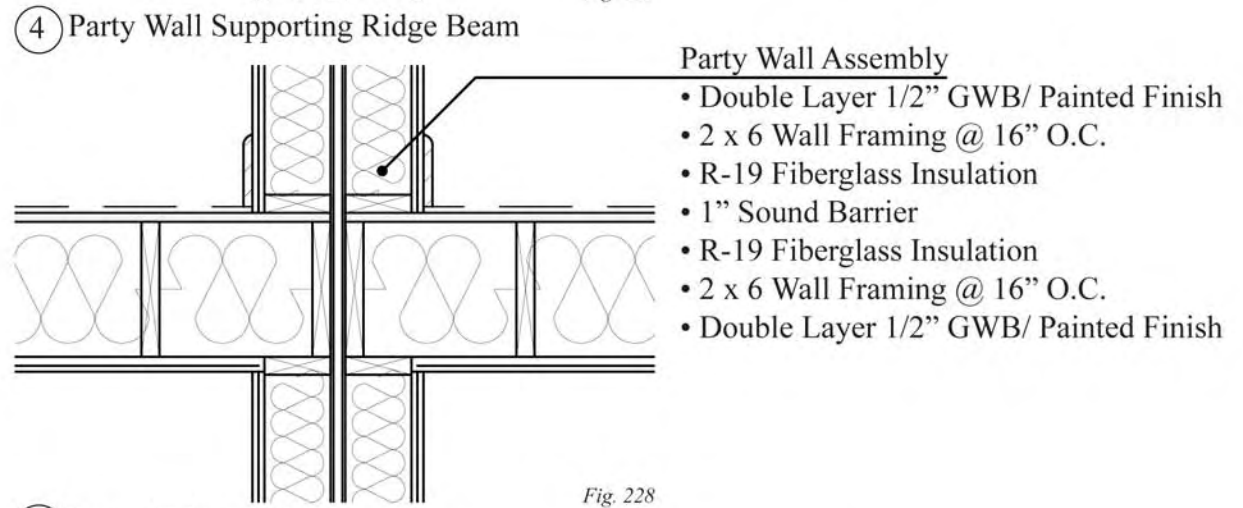


Fig. 228

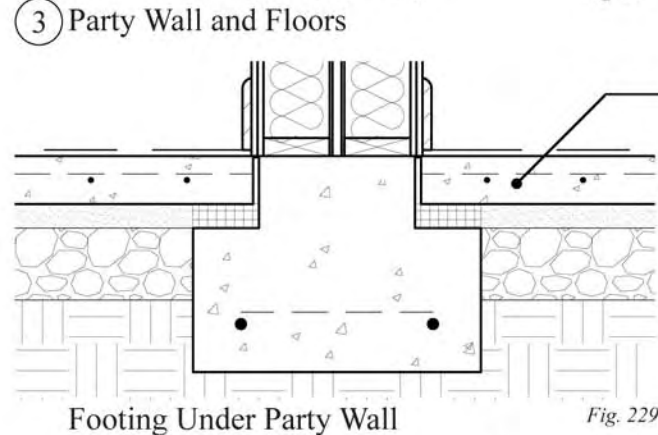
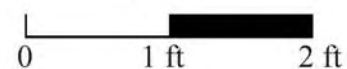
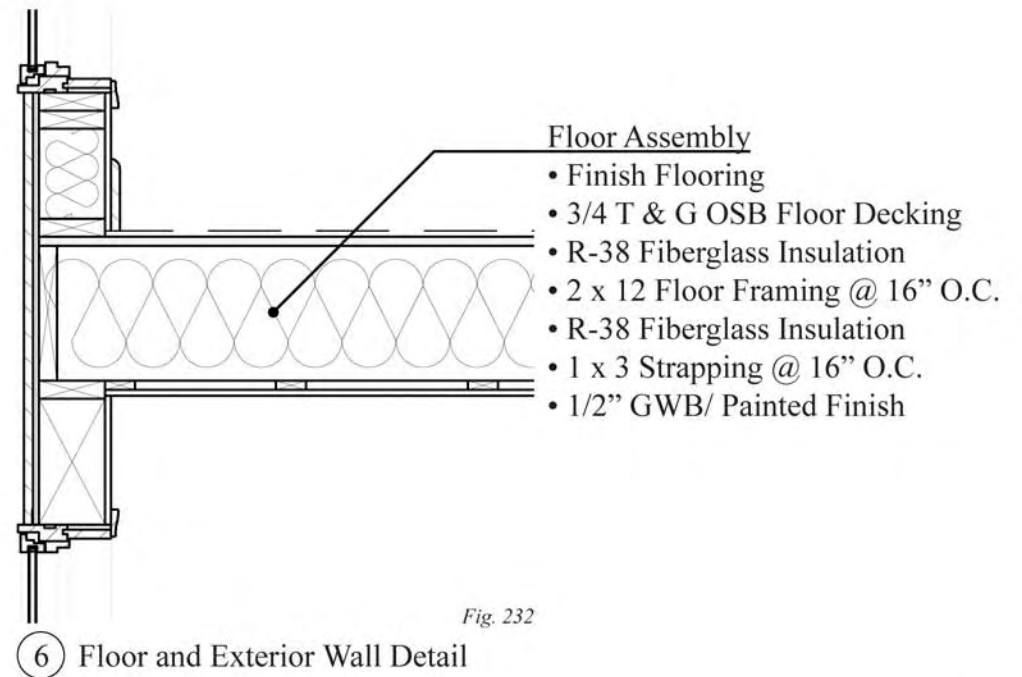
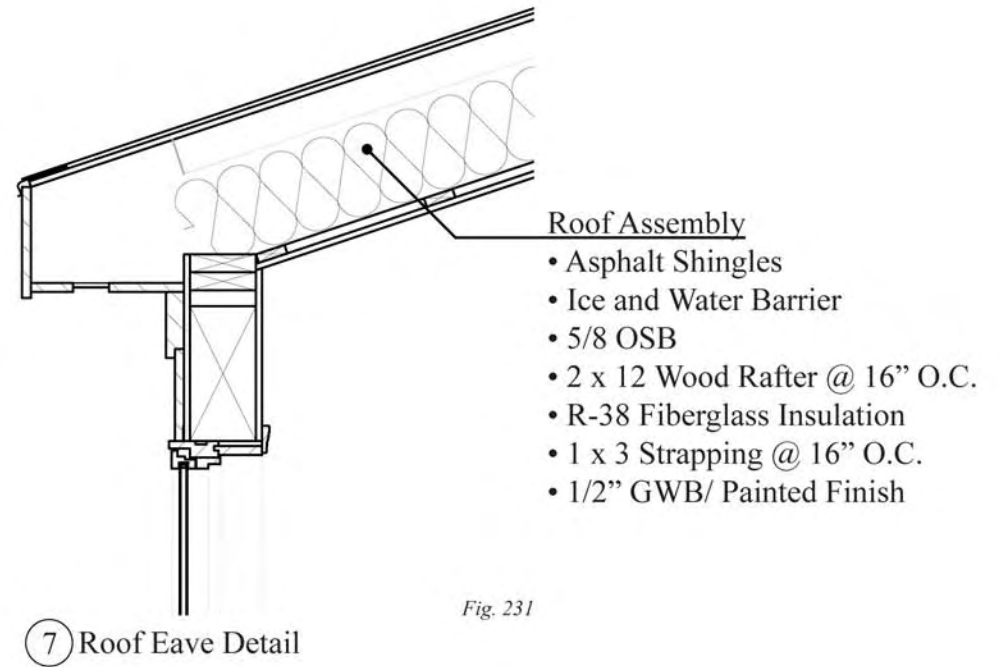
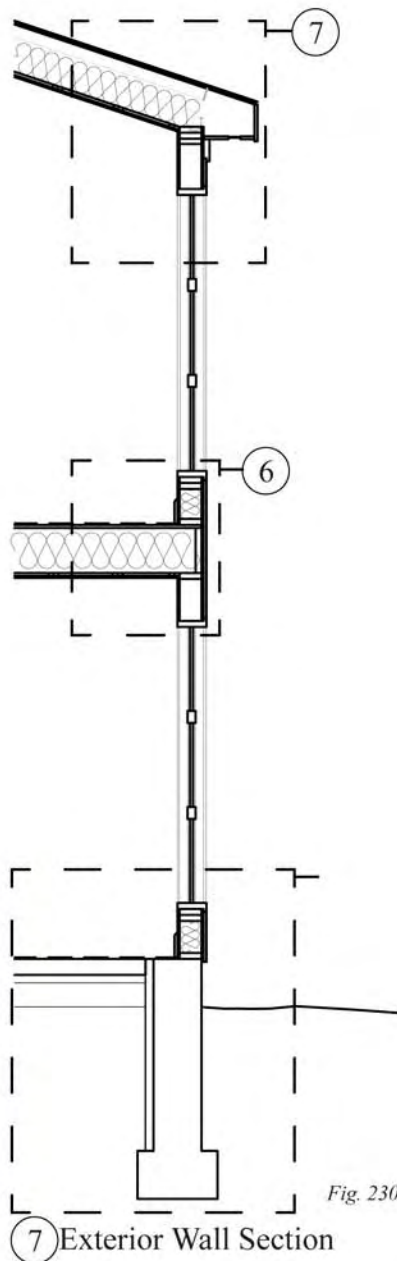


Fig. 229





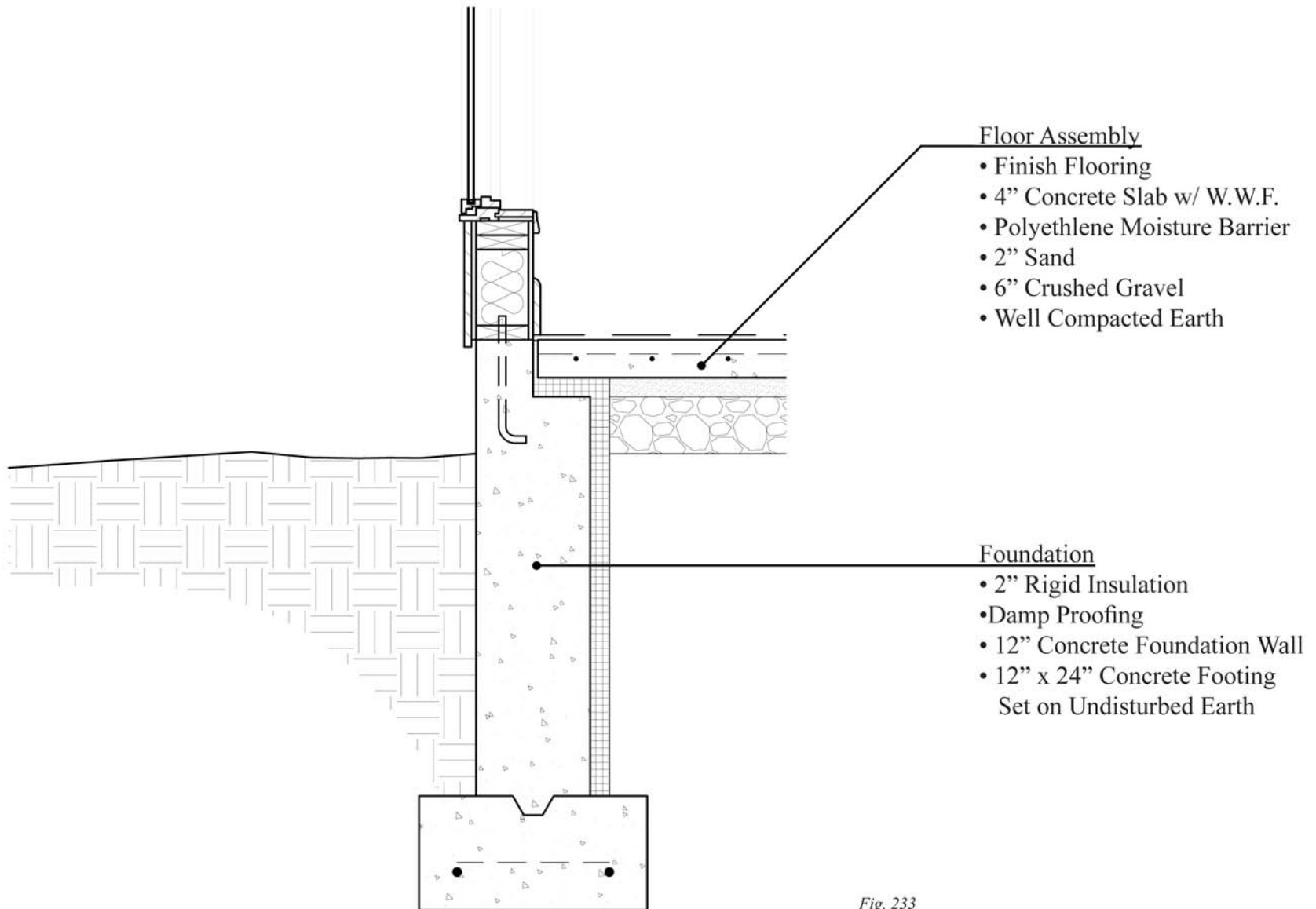
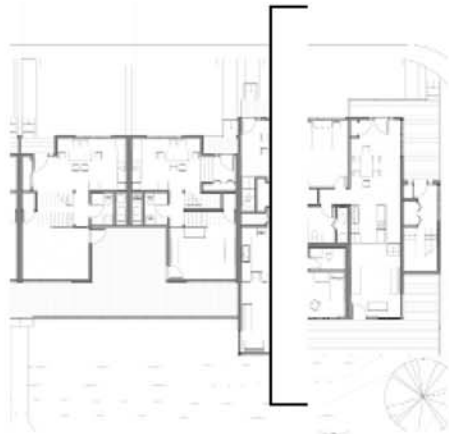


Fig. 233

8 Foundation Wall Detail



⑩ Ridge Beam Detail

Ridge Beam Assembly

- 2 x 12 Wood Rafter @ 16" O.C.
- 1/2 OSB Gusset
- 6 x 12 Timber Beam

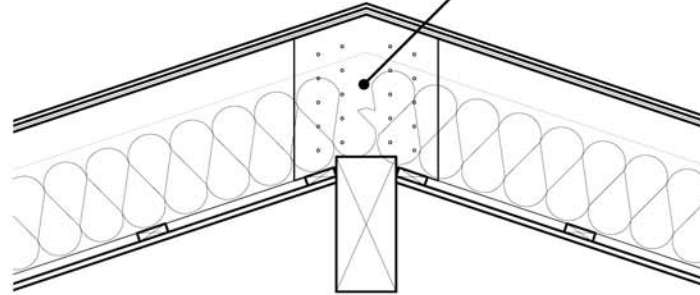
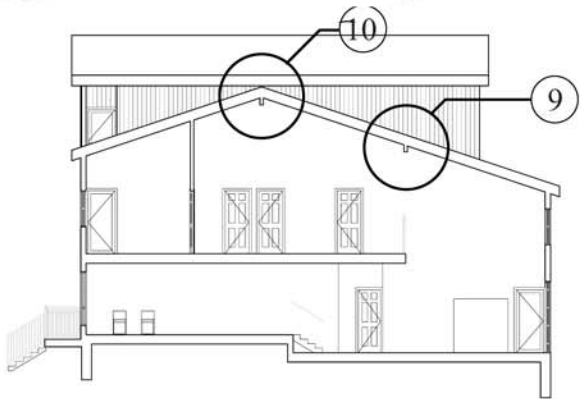
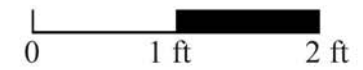


Fig. 234



⑨ Beam Detail

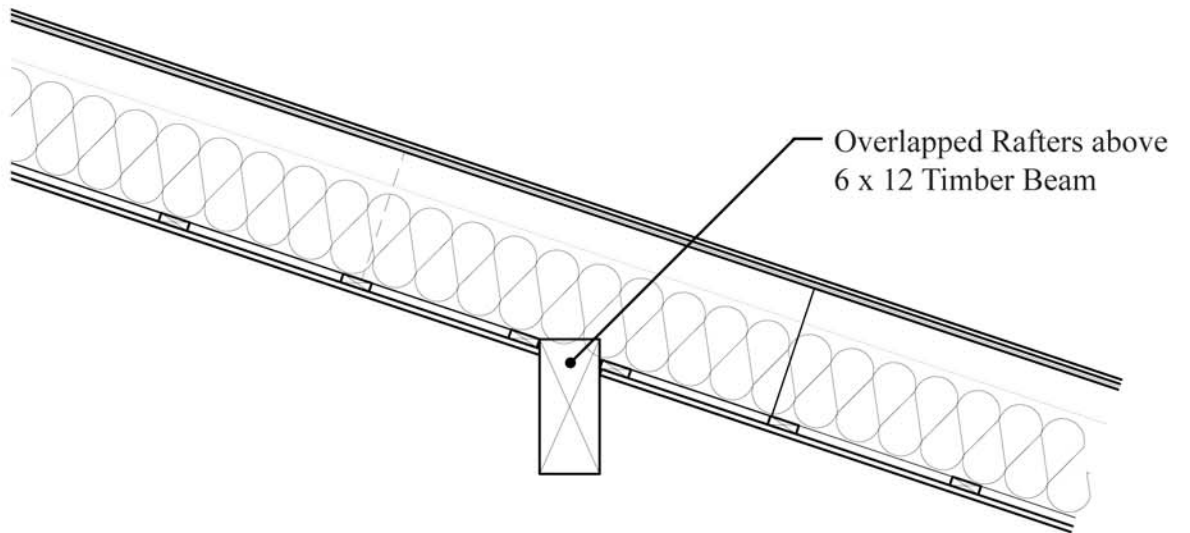
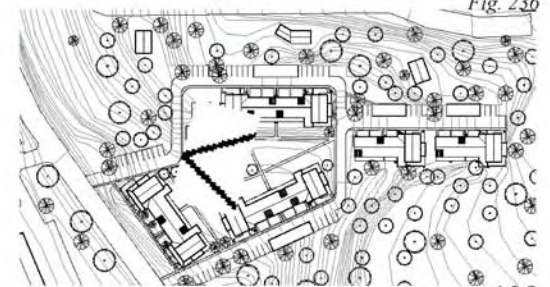


Fig. 235



View of Swimming Pool and Common Space
next to Community Building





View of Outdoor Common Space Looking West

Fig. 237

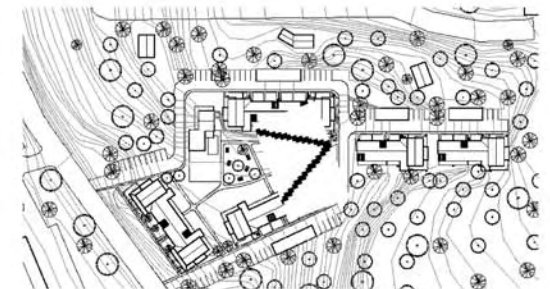




Fig. 238

North Cluster North Elevation

This elevation demonstrates some of the individuality among the units. Variations in form, material, color and openings are evident here, despite all being part of a common form. Horizontal, vertical, and clapboard wooden siding are three different systems used throughout the project on the exterior, differentiating the units. Different sized windows used in accordance with the space they enclose are used. The voids created by roof terraces help to give the units unique identities as well.

CONCLUSION

This mixed-income housing community responds to the lack of distinction and social opportunity that is often a problem found in affordable housing communities. Every dwelling unit is uniquely identifiable while also being part of a harmonious whole. Residents are encouraged to interact with one another while also having their own private quarters to return to.

A project like this would help set the standard for affordable housing in the area. North Conway and its surrounding areas offer low quality affordable housing complexes that are built as cheaply as possible without being designed to accommodate high quality living situations.

The housing units in this community are all designed within a common overall form and framing module that gives them a common language and harmony. Within each cluster, designed in response to the New England farmhouse, the units exhibit variations in form, material, and opening sizes to exhibit individuality, giving each resident a sense of dignity.

To establish a sense to community, all units have direct views and access to the outdoor common space. From each unit, residents can see what activities may be going on amongst the other members of the community and have the opportunity to immediately become involved. Rear decks face this space and are shared by up to four units with only one way to enter and leave, encouraging the residents to pass by each other and possibly engage in conversation with one another.

Architecture is the manipulation of the world around us to create spaces that not only accommodate our needs, but also affect our state of mind. This project accommodates the need for quality mixed-income households, while providing them with a home they can feel proud about living in and would receive a positive reaction from all others who observe it.



Fig. 239

ILLUSTRATION CREDITS

- Fig. 1. Aerial Rendering of Final Project
- Fig. 2. Photo courtesy of Greater Richmond Scan. United States Capitol Building. Architect: William Thornton.
- Fig. 3,4. Photo courtesy of Kristen O’Gorman. Trinity Church. Architect: Henry Hobson Richardson.
- Fig. 5. Stata Center. Architect: Frank Gehry
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- Fig. 72, 75-78. Photos courtesy Affordable Housing Design Advisor. Stoney Brook Apartments. Architect: Chris Lamien and Associates.
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- Fig. 73, 85-89. Photos courtesy of Sam Davis. Arlington Farm. Architect: Sam Davis Architects.
- Fig. 74, 90-91. Photos courtesy of Affordable Housing Design Advisor. Parkview Commons.
- Fig. 75, 92-95, 97. Photos courtesy of Sam Davis. Tuscany Villas. Architect: Sam Davis Architects.
- Fig. 96 Tuscany Villas sectional diagrams.
- Fig. 76, 98-100, 102-103. Photos courtesy of Sam Davis. Yorkshire Terrace. Architect: John V. Mutlow

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Mount Washington Valley Chamber of Commerce. "Local Services." Mount Washington Valley. <http://www.mtwashingtonvalley.org/services.cfm> (accessed November 30, 2008).

- Provided public transportation information for Conway, NH.

New Hampshire Economic and Labor Market Information Bureau. "Conway, NH." <http://www.nh.gov/nhes/elmi/htmlprofiles/conway.html> (accessed November 12, 2008).

- Provided information for the town of Conway, NH including information on demographics, employment, income, housing, and population.

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- Analyses several case studies of attached housing by breaking down each project's objectives, community and environment, organization, interior qualities, and economic and energy efficiency.

Schittich, Christian, ed., *Semi-Detached and Terraced Houses*. Boston: Birkhäuser, 2006.

- Provides guidelines for energy and construction efficiency in the design of attached housing as well as analyzing several successful projects in Europe.

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